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In undertaking his film adaptation of <i>Dracula</i>, director Francis Ford Coppola was determined to remain faithful to the original Bram Stoker novel while still leaving himself adequate freedom to examine it through his own sensibilities. Rejecting high-tech effects, he opted to employ old-time cinema illusions supervised by his son, Roman Coppola, with a host of providers including Michael Lantieri, Cannom Creations, Matte World, 4-Ward Productions, Fantasy II, Colossal Pictures, Visual Concept Engineering and Available Light. <i>Article by Janine Pourroy.</i>	
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Once upon a time, a watershed motion picture challenged the long-entrenched Hollywood notion that unidentified flying objects and the forces behind them must be inherently evil. Choosing instead to speculate upon extraterrestrial visitation as a benign phenomenon, writer-director Steven Spielberg fashioned a classic tale of everyday people swept up in extraordinary events. On the occasion of its fifteenth anniversary, Spielberg reflects upon <i>Close Encounters of the Third Kind</i> — its concept, its casting, its effects. <i>Interview by Don Shay.</i>	
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COVER — Dracula prowls the streets of London in *Bram Stoker's Dracula*.
(Photograph by Ralph Nelson.)

QUICK CUTS: MUPPETIZED DICKENS

article by Christine Sellin

In Charles Dickens' *A Christmas Carol* first published in 1843, the true meaning of Christmas is realized through the personal metamorphosis of one Ebenezer Scrooge. How this unconscionable tightwad is shown the error of his ways and learns true compassion and generosity has been the subject of numerous motion pictures over the years, the most recent — and perhaps unusual — being *The Muppet Christmas Carol* produced by Jim Henson Productions for Walt Disney Pictures.

Director Brian Henson's musical adaptation of the Dickens classic stars Michael Caine as Scrooge and, of course, the Muppets as supporting cast. Kermit the Frog acts as Bob Cratchit, longtime office minion to Scrooge, supported faithfully by his wife, Emily Cratchit, played by Miss Piggy. The Great Gonzo and Rizzo the Rat team up to narrate the story. New Muppet characters are also featured, playing the ghosts of *Christmas Past, Present and Future*.

The film marked a departure for the Henson organization in that it was the first Muppet feature since Brian Henson took up the legacy left by his late father, Muppets creator Jim Henson. In addition, the project called for an array of challenging special effects, accomplished within a very narrow time frame. Overseeing the effort was visual effects supervisor Spencer Levy. "This picture had ninety effects shot setups, broken up into one hundred thirty-two cuts," said Gentry, "which is pretty much on par with other major effects shows I've worked on."

Respectful of longtime ties to England — where the first Muppet television shows were produced by Sir Lew Grade — Brian Henson opted to work at Lee International Studios, near London, with a predominately British crew. Shooting began in early June, aimed for December release — an ambitious schedule considering an effects workload which included puppets, miniatures, live-action forced perspective techniques, water- and oil-tank photography and computer graphics. Shooting of effects elements occurred simultaneously with the main production over the June to August period, allowing only about two months for complex compositing, with some shots allotted only a few weeks. About a third of the effects shots were tasked to London-based Peerless Opticals for traditional opticals, while Gentry and line producer David Barron turned to The Computer Film Company for more complex shots requiring two-thousand-line digital compositing. Due to the time crunch, another third went to Composite Image Systems – Hollywood where the production could take advantage of the facility's fast-turnover digital optical transform system.

More than one hundred Muppets were required to ‘cast’ the picture, most of them operated via classic Henson techniques in which a puppeteer’s right arm is inserted inside the puppet to perform simple characterization, while his left hand operates arm rods. For more prominent articulated characters, however, the Henson Performance Control System — a computerized puppeteering device which garnered a Scientific and Engineering Academy Award in 1991 — was implemented. The system enables a puppeteer to synthesize specific combinations of expressions from an extensive menu of choices to create a puppet performance that coincides appropriately with simultaneous vocalizations.



In *The Muppet Christmas Carol* a musical adaptation of the Dickens classic, actor Michael Caine played Ebenezer Scrooge opposite a cast of more than one hundred Muppet characters.

Other puppeteering techniques were also utilized. In one scene, Kermit was featured walking down a full-size street set. “It was the first shot in which Kermit was ever seen walking without any visible means of support,” Gentry commented. “I had a treadmill idea that would enable the puppeteers to connect Kermit to a surface and make it appear as if he was walking up a sloped street. In London, I happened to find the elliptical rolling drum that had been used for the revolving earth shots in *Superman*.” A background plate of the London street set was shot with a motion control camera move. Then, shot separately against bluescreen and supported by blue-suited puppeteers, Kermit and the drum — newly covered with a material that looked like snow and street — were filmed from a low angle with a motion control camera craning up and tilting down in correlation to the plate’s perspective shifts.

The film also featured computer generated effects, such as a morphing technique implemented by CFC for a shot of the ghost of Jacob ‘Statler’ Marley that appears through Scrooge’s door-knocker. “We first shot a plate of the door-knocker itself, loosely designed to follow the facial features of the Statler Marley puppet,” Gentry explained. “Next, we shot the actual puppet head against greenscreen, using an eight millimeter lens. Because of the fisheye lens, the head element had an accentuated forward-thrusting, lunging quality. Then, the plate of the door-knocker and a portion of the door were digitally manipulated and stretched frame-by-frame — or morphed — onto the head element by CFC.”



A sprawling cityscape miniature was constructed for a sequence in which Scrooge is flown over turn-of-the-century London.

In a subsequent sequence, *Scrooge and the Ghost of Christmas Yet to Come* journey through gloomy scenes of the future awaiting Scrooge if he does not right his many wrongdoings. For this segment, CFC rewrote computer graphics codes to create a vortex effect that would serve as a transitional device between scenes. “The background swirls to

form a funnel with a center point,” Gentry explained. “It is as if the scene were a big vat of paint, and you took a stick and swirled it.” Background plates of the sets were photographed first, followed by a bluescreen element of Michael Caine and the seven-foot ghost character walking in and out of the vortex.

The most complex Muppet sequence involved the *Ghost of Christmas Past*, who takes Scrooge on a flying tour over the city, stopping to visit bitter scenes from his past. Gentry and Brian Henson determined that the Muppet — a childlike creature composed of a head and a body of robes — would need to be shot underwater to create a languidly flowing effect in her clothing, as if shot slow motion, while still being able to articulate her mouth in real time. “The idea was to have all this hair and fabric floating about her,” said John Stevenson, who supervised the design and construction of the three-foot character, “sort of like a jellyfish. She was made with a fiberglass core and silicone skin, and the costume was made out of a delicate nylon fabric that was gossamer-like.”

A three-by-ten-foot tank was custom built and filled with oil. “The oil had a colorless, luminescent quality, which gave a pretty blue sheen to the robe edges,” Gentry said. “But we eventually switched to water because the oil tended to dampen the action of the Muppet too much for the flying shots where we wanted her robes to whip around more.” Harrier jet fuel pumps were used underwater to help articulate specific actions of the Muppet’s robes, much like using a fan blowing the hair of a live model for effect. Black velvet was applied to the back of the tank and to rods controlling the puppet, ensuring keyability of the ghost in postproduction. An elaborate, overhead scaffold, complete with video monitors, was rigged for rod-controlled puppeteering.

To realize shots of Scrooge’s flight over the city, a special flying platform was developed for Caine to avoid the stressful conditions of traditional flying rigs. A cast was taken of the actor’s torso and legs to create a custom fiberglass shape, reinforced with metal backing, that would give him a comfortable body-hugging form to lay within. The solid, body-shaped platform, attached to a long boom arm covered in greenscreen material, suspended Caine in a relatively effortless prone position, as if in flight. His costume, an elaborate dressing gown, was devised to slip on over both actor and platform to conceal the gag.

Backgrounds for the flight sequence included miniatures of turn-of-the-century London and snowy forest sets built by David Sharp, a Los Angeles-based modelmaker, and a twenty-man modelmaking team through the Henson Creature Shop in London. “The miniature was a Dickensian London,” Stevenson explained, “but Muppetized a bit. Like the live-action sets, there weren’t many straight lines or right angles.” The sprawling miniature was built on multiple tracks in four planes so that easy access by modelmakers and the motion control camera could be accomplished by simply sliding the different levels in or out as needed.

The *Muppet Christmas Carol* was an arduous effort that successfully merged the Muppets into Dickens’ world. For Gentry, the film was both a technical success and a special experience. “There is something about the Muppets,” Gentry admitted. “They do have a way of coming alive. As an adult, you know you shouldn’t be reacting this way — but you develop a weakness for them.”

COMMERCIAL SPOT: TRUE COLORS

article by Janice Hubbard

In the world of special effects, things are rarely what they seem. Some of the greatest film and television ‘events’ are actually fabricated through the use of computer generated imagery and other available technologies. Such was the case with the commercial for Kodak Gold film entitled ‘Let the Memories Begin’ which was first aired in conjunction with the summer Olympics. In the spot — created by Young & Rubicam, New York and London — hordes of people file into a huge stadium, seemingly to witness a spectacular event. A feeling of wonder and anticipation permeates the crowd. Suddenly, twenty thousand people flip up cards to create eight massively-scaled photographs of Olympic moments and warm family scenes. The reactions to the pictures are from the heart — a wide-eyed boy stares in rapture; a woman bites her lip; a couple laughs together, shaking their heads as if asking themselves, “How did they do it?”

They did not, but R/Greenberg Associates did. The challenge facing the company was to make a universal ‘world-beat’ commercial using a variety of mediums. Since the commercial was to air in forty-four countries, only a single line of dialogue — recorded in many different languages — would be used. The success of the spot, therefore, rested solely on its visual impact. Also, in order to meet the high standards set by Eastman Kodak — the most color conscious of clients — the images had to be rendered at the highest possible resolution, while creating an atmosphere that was both as grand as the Olympics and as warm and homespun as Mom’s apple pie.

It was no small task. R/Greenberg created the spot using a grab bag of tools and techniques, including traditional 35mm Kodak film, matte paintings and computer generated imagery to create a seamless illusion of a stadium filled with tens-of-thousands of flipping cards aligned to form an impressive display of gigantic photographs.

To start, world-class photographer David Langley was hired to take photographs of family scenes and model Olympic athletes using Kodak Gold film. The selected photographs were digitally scanned at high resolution. R/GA Point, a division of R/Greenberg, then manipulated the images digitally — a high-tech ‘cut and paste’ job. “For an assignment like this,” observed Langley, “we’re making pictures, not taking them.” In one photograph of a runner at the finish line, for example, an additional competitor from another photograph was added to the near background, thus creating the impression of a close race as the winner breaks through the tape. Similarly, a photograph of a little girl was actually a composite of two separate pictures, joined precisely at the neck to combine the best overall facial expression with the best body attitude. These digitally manipulated pictures were then output as 8x10 chromes via a Kodak LVT film recorder.

Once the live-action elements had been modified, R/Greenberg began to model computer generated cards to fit into the stadium for long shots of the cards flipping. One of the troublesome aspects of the computer generated action was creating a random, imperfect motion, similar to what would be obtained if human beings were actually turning the cards.

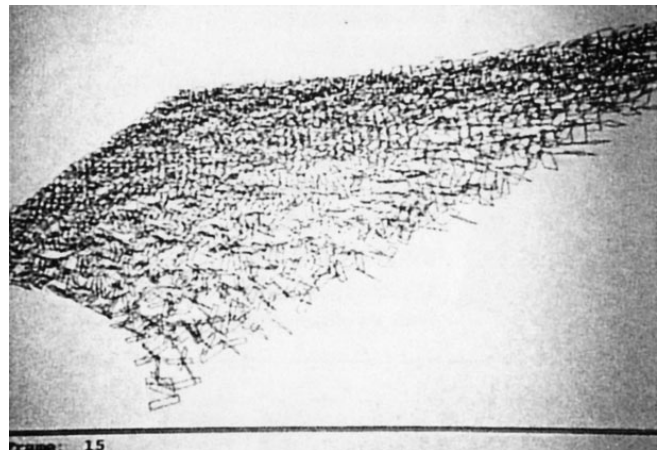
“We defined one card lift,” said Francis, “programming in all the parameters for that motion, then let the computer perform the variations on those parameters. It ended up being sort of a lift and move and jostle. There were variables such as what frames the cards would go up or down — some cards were late, some were early, some didn’t come up at all, some cards came up upside down. We introduced more chaos and randomness than I think would have actually occurred in a natural performance, just to make it feel as realistic as possible.”

Refinements were still necessary after the basic action had been determined. “We went through a lot of steps. We would composite wire-frame computer animation over the backgrounds to check our perspectives and the action of the lifts. We also did a lot of motion testing, putting the actual rendered computer graphics over the backgrounds to make sure that the action was working well. In this manner, we progressively refined the motion of the computer card animation until it looked absolutely real to the eye.” To further enhance the realism of the shots, a layer of computer generated shadows was also incorporated. “Because the cards didn’t completely seam together, you could see people through the spaces between the cards. If those people were as bright under the cards as they were where there were no cards at all, it would look wrong. So we darkened the people in the areas where the card shadows would naturally fall, creating shadows in the shapes the cards would cast.”

Even after refining the computer animation, a certain artificiality in the shots remained. Although



For an expansive Kodak commercial in which a stadium full of people flip cards to produce giant photo-murals, R/Greenberg Associates employed digital technology to simulate the desired large-scale event economically.



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the computer generated cards had been 'lit' as if reacting to a genuine light source, atmospheric haze in the stadium had not yet been accounted for. "The

Greenberg Associates employed digital technology to simulate the desired large-scale event economically.

day we filmed the crowd it was hazy," said Francis. "That was good, in a way, but it created a glow that was apparent in the air — a glow that was more obvious in one area and less obvious in another. So that had to be corrected. One of the things we had to do was balance out that haze, which was a bit of a tightrope between degrading the photography so that it integrated, yet preserving the clarity of it — which was essential, since what we were selling were these beautiful pictures. So we tried to bring the background up, rather than bring the photography down. To some extent we did both, trying to find a middle ground. Using the paint system, we just looked at the composited cards over the crowd and made a determination as to which areas ought to be lighter or darker. We created soft digital mattes that would brighten or darken entire areas of animation. Also, we had to make a further adjustment because, in nature, as things get farther away they get progressively more sky-colored. So we had to create overlaid mattes to deal with that because of the expanse of the soccer stadium."

Final touches for the nighttime spot included a starfield matte painting placed behind the stadium, as well as a background photograph of a city. Another layer of CGI was required for the last scene which featured a long shot of two computer generated card flips — one depicting Kodak Gold film and another announcing Kodak as a sponsor of the Olympics — with computer generated, particle-system fireworks going off in the background. Finally, two shots required the compositing of bluescreened foreground actors over the live-action plates to create a sense of depth and perspective.

The final result is a commercial with spectacle, warmth and visual impact. "Film has a particular, special look," Francis noted. "There is a richness to it that entails the subtlety of the details, the colors, the shading. What we set out to do was to emulate that look with computer generated images — and I think we succeeded."

EFFECTS SCENE: FULL MOON RISING

article by Vic Cox

Last summer, David Allen Productions was humming with activity. Specializing in stop-motion animation and rod- and radio-controlled puppetry for films of almost any means, the firm had recently completed *Doctor Mordrid: Master of the Unknown* for Charles Band's Full Moon Entertainment — a low-budget fantasy film production company — and was hard at work on two other Full Moon projects, *Robot Wars* and *Prehysteria*. But don't look for any of these titles on local theater marquees — they're heading straight for video store racks.

Full Moon produces eight to ten of these so-called direct-to-video features a year. Selling an average of thirty-five thousand copies throughout North America, these fantasy-based adventures fill the gap left by the demise of the B-movie and the double-feature film circuit. Such a market also provides bread-and-butter employment for effects shops such as *David Allen Productions*.

Recognized within the industry as a master of old-style, hands-on stop-motion animation, Allen was also a pioneer of bluescreen rod puppet techniques. More recently, sophisticated radio control puppets that work in a live-action environment, in direct contact with actors, have emerged as a significant addition to the Allen repertoire. "We bring our figures to life using a combination of these three approaches," stated Allen. "For each situation, we have to evaluate which is the most appropriate technique."

Allen first met Charles Band fifteen years ago when the producer was assembling a production crew for *Laserblast*. "Jon Berg and I created a sequence with some stop-motion aliens," Allen recalled. "Scenes with those aliens were later expanded in the final film and we wound up doing many more shots than we originally bargained for."

Impressed with Allen's work, Band began an informal collaboration with the animator that continues to this day. The alliance with Full Moon has been a beneficial one for David Allen Productions, contributing to a recent surge in business. The company's team of artisans and animators has grown from its former half-dozen to between twelve and fifteen people, and Allen has had to erase the word 'vacation' from his vocabulary. "In the past few months, I've had more work than ever."

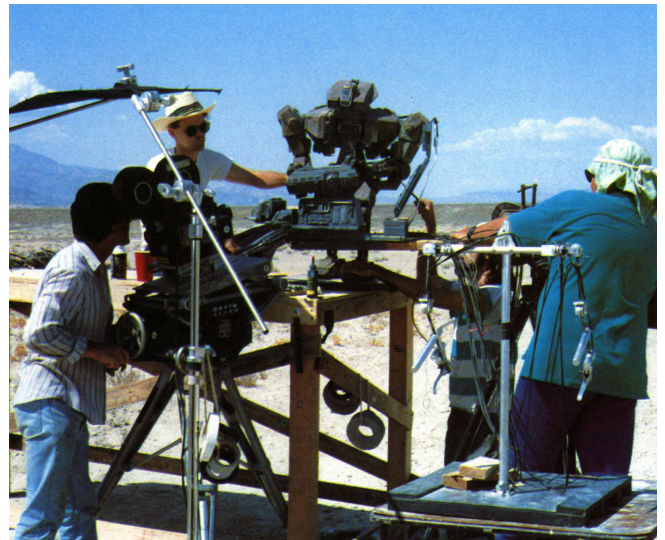
The increased demand for Allen's services is due, primarily, to his proven ability to deliver quality performance on deadline and for a reasonable price. Although he has worked on such major, high-budget effects films as *Young Sherlock Holmes* and *Willow*, Allen is most noted for creating Film Illusions without complicated, costly technology. "My reputation in some quarters is that I am a little backward in my methods," Allen commented wryly. To keep expenses under control, Allen owns his studio and all of his equipment. Visuals are filmed in the simplest way possible to achieve the desired effect — often in-camera or with rear projection — and puppet armatures are routinely cannibalized and recycled for parts. Generally, Allen avoids renting equipment, preferring to farm out sequences when motion control or complicated opticals are required. "I keep my overhead low compared to most studios."

In particular, Allen has been adept at finding inexpensive ways to overcome the limitations of traditional stop-motion. To get a natural-looking blur, for instance, Allen will resort to vibrating a puppet's main support rod. Another relatively low-tech approach is to shoot multiple exposures on a single frame — an Allen specialty for creating blurs. "These in-camera blurring techniques are a kind of poor man's go-motion. Some people have sort of given up on stop-motion, at least philosophically. And some people were never convinced of its effectiveness to begin with. But I try to make it work here by using it carefully and using it well. I enjoy, probably more than I should, seeing just how far I can get with little more than resourcefulness."

That resourcefulness is required particularly for the Charles Band productions, since a typical *Full Moon* feature budget is around \$1 million, with ten percent usually allotted to visual effects. Schedules, too, are uncommonly tight. It is unusual for Allen and his associates to have more than four months in which to make the puppets, build their miniature sets and deliver the scenes. Cinematography is often completed in only five weeks. Although challenging, the assembly line methods and generally scaled-down production techniques utilized by Band afford Allen a great deal of autonomy. "Charlie is getting a good deal," Allen admitted. "But I get a lot of freedom; and I get to do what really pleases me. Charlie has been loyal to me when it comes to visual effects work; and as long as he is busy, I'm busy. I think we have a very symbiotic relationship."



Contributing quality effects for the direct-to-video feature film market David Allen animates a stop-motion robot for the Full Moon Entertainment production of Robot Wars.



Short schedules and small budgets are the norm as crew members from David Allen Productions employ rod puppeteering techniques to animate battling robots on a desert location.

While Allen's administrative chores have grown, he retains a hands-on relationship with the effects work for each of the Full Moon films. In *Doctor Mordrid*, where two sorcerers battle in a museum using skeletal proxies, he performed a majority of the animation, supported by animators Chris Endicott and Randall William Cook. In *Robot Wars*, Allen primarily shot background plates on location with the second unit and supervised the studio work. Chief animators of the robot fighting machines were Paul Jessel and Yan Guo Ling, though Allen did a few shots with a six-legged, scorpionlike robot. *Prehysteria*, the adventures of five pint-size dinosaurs adopted by a family, employed mostly radio-controlled puppets interacting directly with the cast, as well as traditional stop-motion. In addition, several scenes were achieved with digitally composited rod control puppets — an emerging specialty of the studio.

Directing is a next logical career move, and Allen has already taken steps down that path. Within the past few years, he has directed a segment of *The Dungeonmaster* and all of *The Puppetmaster II*, both for Band. The move into directing is not only satisfying, but probably a smart choice given the rather dubious future of stop-motion. "All of us in my type of animation see the advances in computer graphics and digital animation. Once high-definition video arrives, the expectation within the industry is that it will become the use format by which we see all of our entertainment — even though film may still be used as a recording medium. High-definition television video images will be how we see movies, probably even in theaters. And that will eventually link up with the kind of video manipulation we see in commercials now, which is all totally made-up, electronic imagery. When that happens, the kind of animation that I do — with real, three-dimensional objects animated directly in front of a camera — is probably going to be threatened to some degree. But presumably, some people will still want the folk-art quality of stop-motion, or a look that is not so slick, homogenized and predictable."

Whatever changes in the industry these new technologies may bring, Allen feels certain that future filmmakers will admire the patience and dedication required of those who led the way in the effects field. "People will look back in wonderment at the way we actually shot film blindly, not knowing precisely what we would get back. Video has monitors right next to the camera, so you can see what you are taping. A director in a video console booth sees the image right there and then. But in film, as a former boss of mine once said, 'You never know what is going on in that little black box.' You shoot your film and you send it to the lab and you submit it to the tender mercies of a lot of handling — so things can come back that surprise you. It's like when you shoot pictures with your little Instamatic — you get them back and say, 'Gee, what's that flare there in the corner?' Or, 'Oh, no, I cut Uncle Charlie's head off.' And animation is even chancier, because you are dealing in a time-lapse world. But soon we will be moving into a new way of making movies — and those filmmakers will take their hats off in respect to our bravery."

HEART OF DARKNESS

image

article by
Janine Pourroy

There lurks, somewhere within the depths of every human heart, a darkness. It is ever present, as much a part of life as the dance of shadow and light. The Swiss psychiatrist Carl Jung named it the Shadow, the darker part of the human psyche that personified, through dream images and waking projections, that which we hate, deny and fear in ourselves. *Robert Louis Stevenson* cast his demons into the notorious Mr. Hyde, thereby permitting Dr. Jekyll an uneasy walk in the light. Bram Stoker, in 1897, created *Dracula*.

The quintessential vampire, eternally damned from day by night, emerged into a repressed Victorian society by way of a novel that sold over a million copies when first published — and has not been out of print since. Bram Stoker's *Dracula* is the telling of his dark tale — the earthly marriage of life and death, chastity and sexuality, passion and fear. He has haunted and endlessly fascinated readers ever since the virtuous Jonathan Harker first rattled through the Carpathians on his mission to face, and ultimately do battle with, the darkness within.

The cinematic legacy of *Dracula* is long and varied, and was born of a staged reading of the text at the Lyceum Theatre in London the month of its original publication. Stoker — business manager of the Lyceum and a close associate of famed actor Henry Irving — was well aware of the theatrical possibilities of his work and arranged for a presentation of the piece by a group of actors. Although this initial reading was deplorably lengthy and not particularly entertaining, play adaptations naturally ensued, and the spark of cinematic inspiration was ignited. The birth of cinema coincided with the birth of *Dracula*; and though



Director Francis Ford Coppola lines up a shot during production of his cinematic adaptation of Bram Stoker's *Dracula*. Though the James V. Hart screenplay was essentially faithful to the hundred-year-old novel, Coppola filtered and interpreted it through his own stylistic sensibilities.



Cast in the title role was actor Gary Oldman. In an expansion of the novel's storyline, a prologue was devised that tied the fictional Count Dracula to his historical

Stoker died before seeing his saga realized on film and enjoying the resulting profits, screen versions of his dark vision have been prolific and constant ever since.

counterpart, Vlad the Impaler, and provided an explanation and rationale for his vampiric nature in the fifteenth-century back story. Prince Vlad is a Romanian Christian engaged in a holy war against invading Moslem Turks. For a scene in which a cross atop the Chapel of St. Sophia in Constantinople is toppled, a miniature of the basilica dome was constructed by Chris Walas Incorporated and photographed at Colossal Pictures.

Francis Ford Coppola has made a career of examining the complexities of the human spirit in its myriad incarnations. A master storyteller, his voice is cinema. As for *Dracula*, Coppola had been intrigued with the story since boyhood and felt the time had come to render on film the definitive telling of this fascinating and haunting tale. In November 1992, nearly one hundred years after its first appearance on the literary scene, Bram Stoker's *Dracula* — as the Coppola version is aptly entitled — was released by Columbia Pictures.

Dracula was directed by Francis Ford Coppola and produced by Coppola, Fred Fuchs and Charles Mulvehill for American Zoetrope and Osiris Films. Principal members of the creative team included production designer Thomas Sanders, director of photography Michael Ballhaus and costume designer Eiko Ishioka. The screenplay, by James V. Hart, was based heavily on Stoker's novel, with an almost between-the-lines reading of the passion repressed so thoroughly during the late Victorian era. In the film — an impressively stylized tribute to both vampires and the horror movie genre — *Dracula* no longer lurks around dark corners as a sinister and unseen presence. His character and story are developed to include the motivation for his damnation, and he becomes more sympathetic and intriguing than ever before — a *Dracula* with tears, so to speak.

Roman Coppola, the director's son, served as both second unit and visual effects director, and was responsible for much of the considerable research that went into the making of the film. "My dad had been interested in *Dracula* ever since he was a kid. I remember him telling a story about how he read the book when he was younger and then looked in the encyclopedia to find that there was a real *Dracula* — better known as Vlad the Impaler. He found the thought that there was a real person behind the legend very chilling and exciting. Because of that, he wanted to indicate in the film that *Dracula* was a real person. Most of the other *Dracula* films have been based on the play, which was significantly different from the book in that a good portion of the action happened at *Dracula's* castle. So in a way, as familiar as people may be with *Dracula* from all the movies that have been made, they are probably very unfamiliar with the original story. All the original characters from the novel are in the movie. This time, however, *Dracula* is prominent in more of the scenes — the book consists of recollections from everyone else's point of view, through diaries, journal entries and letters. There is a love story between *Dracula* and Mina which is original to the screenplay, as well."

As second unit director, Roman Coppola worked closely with director of photography Steve Yaconelli, who shot all of the considerable second unit footage. In his capacity as visual effects director, Coppola likewise worked in close collaboration with a number of effects artisans to realize the supernatural aspects of the story. Ironically, at the same time that digital effects were starting to dominate the effects scene, Coppola and son determined to make a film that utilized 'old-style' effects techniques. "We wanted to use traditional effects in this film," explained Roman Coppola, "not necessarily as an homage to traditional effects, but because we thought they were fascinating. We really wanted to use them. There are certainly people who are familiar with old-style effects and will appreciate their use in the film, but we liked the idea of introducing these illusions to a

new generation of filmgoers. Many effects houses have been using these very tricks for years — in-camera effects, for example; running the film backwards, using different frame rates, double exposures, miniatures, mattes and so on. We really involved the actors in the tricks, as well, and tried to do as many of them on the set as possible, as opposed to doing them in postproduction — although we did some of that, too.”

Visual effects coordinator Alison Savitch — who came to *Dracula* straight from James Cameron’s high-tech *Terminator 2* — concurred. “Francis didn’t want to go for the high-tech look. What he wanted to do, aside from creating unusual effects, was to draw from many of the old-style effects that have been used throughout the history of film — and he made no bones about it. He drew ideas from everywhere — old horror movies and German expressionistic films — and ended up creating something very stylized and artistic. Francis wanted the effects to convey a feeling of drama, rather than a sense of realism. This philosophy also freed us to use our imaginations; he really encouraged creativity in others. I’ve never seen a director mold a scene as much as Francis does. A lot of directors come on the set and they mold a scene with the actors or with set direction. But Francis uses all the elements — lighting, music, effects — to their absolute maximum. He was always seeking to enhance a scene, and he encouraged feedback from everyone. How could we create the drama here? How could we create a pretty feeling or fantasy? He would put these questions to the crew and then everyone would go to work. We would start with a base scene, but it would then go through an enormous amount of manipulation to get it to what Francis wanted.”

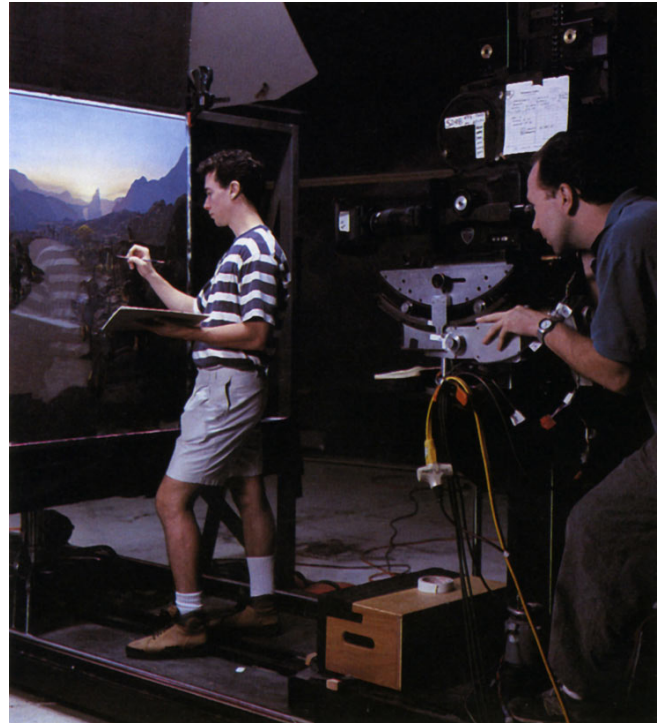


Electing not to stage elaborate scenes with hundreds of extras, Coppola enlisted Fantasy II to create a stylized battle in silhouette, using eight-inch cutout figures articulated in much the same manner as classic Chinese shadow puppets.

Another key contributor to the effects effort was veteran physical effects supervisor Michael Lantieri, who joined the *Dracula* crew after completing Steven Spielberg's *Hook*. Lantieri also admired Coppola's holistic approach to filmmaking. "He is a visionary. He knows what he wants in terms of atmosphere and environment; and I think he is very practical in terms of getting what he wants. Francis ran the show as if it were an orchestra or an opera. When it was your turn to come to the front for your solo, he stepped aside and let you do it. He'd say, 'Good morning, Michael, what do you have for me today?' And you'd better have something — he wasn't that unforgiving — but then it would be your show. When you were finished with your part, he would expect you to fall back and support anything else that was going on in any way that you possibly could. He once made the statement, 'We're going to count from one to ten — we just may not go in order.' And that explains Francis to a 'T.' It was a demanding experience, but it was also a very fulfilling one. The creative process Francis took us through was something everyone should experience, I think."

To Lantieri, Coppola's effects approach was as unique as his directing style. "We decided to invent nothing on this film. Usually on movies, especially effects movies, people like to talk about doing things for the first time and inventing cutting-edge techniques. We took a completely different approach — we tried to be more or less on the cutting edge of applying older methods in the most creative way we could. This way, we were not in competition with anything like T2 or computers or dazzling opticals — we didn't want to be compared to that kind of filmmaking. We wanted our effects to blend in and not lead. *Dracula* wasn't supposed to be an effects film; we weren't going to be grandstanding anything. We wanted the effects to be a natural part of the picture so that they wouldn't detract from the story we were trying to tell."

The low-tech approach of the film is apparent from the first moments of the prologue, a short sequence in which the impetus for *Dracula*'s alliance with the powers of darkness is explained. The



Although the decision was made to shoot the film entirely on soundstages, expansive vistas were made possible by matte paintings and miniatures produced at Matte World. Camera assistant Rich McKay checks focus while artist Brian Flora adds final details to a painting needed for an establishing scene of Prince Vlad returning home after defeating the Turks.



Only the horseman and the road were live-action. Everything beyond — including the impaled enemy soldiers — was painted. A brilliant sun exposure, with accompanying lens flare, and a subtle camera move completed the effect.

story begins in 1462 with a battle between Moslem Turks, who have invaded Romania, and the Christian Transylvanian forces led by the warrior prince, Vlad *Dracula* (Gary Oldman). Victorious in battle, the prince returns home to tragedy, finding that his beloved princess Elisabeta (Winona Ryder) has jumped to her death after receiving false word of *Dracula's* death in battle. Over the body of his lost love — laid out in the Chapel of St. Sophia in Constantinople — *Dracula* swears to avenge her death with all the powers of evil.

Originally, Coppola had intended to present this back story with a few simple scenes augmented by a graphic legend that would scroll across the screen. After viewing the first rough cut of the film, however, he concluded that a longer, more detailed visual representation of the story was required. Gary Gutierrez of Colossal Pictures had already been commissioned to create the main titles for the film — as he had done for many of Coppola's previous productions — as well as the text graphics for the legend. "Francis also, at that time, suggested that I come up with some ideas and a storyboard to illustrate what was being said in the legend," Gutierrez recalled. "He wanted to present the swirl of events in a kind of old-time moviemaking style, with montages and so forth. I did a storyboard for this minute-and-a-half-long sequence at the beginning which helped string together this series of events. We took that storyboard, shot it on videotape and superimposed the legend over it to make these illustrative backgrounds for the legend. Eventually, the story seemed to tell itself well enough — especially with a narrator — and we decided to dispense with the legend all together."

Working in tandem with Chris Walas Incorporated — who built miniature sets for the sequence — and with the artists at Matte World, Gutierrez created the prologue on stage at Colossal Pictures. "The prologue consisted of fifteen or so shots," said Gutierrez. "To design the shots, I worked closely with Anahid Nazarian, who is the staff librarian at Zoetrope. She was the researcher on the picture and she answered a ton of questions and was able to supply me with a great deal of material. One of the storyboards that the production had done depicted the dome of St. Sophia — which still exists in Istanbul — with soldiers tearing the cross off the top of the church. There were some technical difficulties involved in doing that, so I came up with the idea of seeing the dome of the church through smoke and then moving into a closeup of the cross. We see the cross falling toward the pavement and then smashing, and the explosion of that cross on the pavement dissolves to the Turkish crescent which is revealed as the sun rises atop St. Sophia — suggesting the change in regimes, in a way.

"Francis also wanted a map in the prologue to orient people to Transylvania. I thought it would be neat if the map appeared in the red sky, signifying the rise of the Moslem *Empire*, and to have this map lit by flame so that it felt like it was a time of war. I also thought it would be neat to use the shadow of that crescent almost like a big mouth, engulfing Eastern Europe as the camera panned with it." As the prologue evolved, Coppola recognized the need for a new scene between Vlad *Dracula* and his princess. "Originally, the only time we saw Elisabeta was after she was already dead. And Francis felt that because the love between *Dracula* and Elisabeta was such an important aspect of the story, the audience would feel emotionally robbed by never seeing her alive. So he created the scene, shot by the second unit, in which Vlad goes off into battle and Elisabeta begs him not to go and they embrace and kiss. Then we return to more imagery — battle flags and smoke and fire — that was shot on our stage by cameramen Don Smith and Peter Williams. We shot large miniatures, pyrotechnics, huge paintings, specially made maps and silk battle flags that we had embroidered to

match *Dracula*'s emblem. That imagery then leads into a battle sequence that was done by Roman, second unit."

Although the Moslem forces boast superior numbers, *Dracula*'s brilliant leadership inspires his troops to victory. In a nod to his real-life reputation as Vlad the Impaler, hundreds of Turks are seen along the roadside, impaled on long wooden stakes. The initial battle, staged in silhouettes of dust and golden light, and the ensuing road of death were two sequences that exemplified *Dracula*'s low-tech approach to special effects, achieved via puppet miniatures and matte paintings.

Wanting to avoid a battleground filled with thousands of extras, Coppola charged effects director Gene Warren of Fantasy II Film Effects with conveying that image via miniature armies. Eight-inch shadow puppets made of masonite were placed in front of a backing rear-projected with the image of a dusty hillside at sunset. The puppets were fashioned from an eighteenth century design of Chinese origin. About twenty-five of these figures were variously placed on a pliable window-screen-type material and pulled across a miniature hill. On cue, puppets rigged with miniature bows were released, simulating the shooting of arrows, while a grip offstage carefully let tiny sticks fly across the scene in a perfect arc. Miniature banners were waved in the background, and three young men — just stagehands dressed in shorts, jeans and sneakers — ran in front of the screen on a raised platform. One draped a borrowed piece of black fabric kilt-fashion around his waist while another carried an inverted shovel. The effect, partially improvised on the spot, was visually stunning, as well as completely convincing.

In companion with the Fantasy II effect used for the sequence was a matte painting of the Borgo Road — a winding stretch of Transylvanian highway featured at various points throughout the film — with *Dracula*'s castle on a hill in the distance. The path is lined with enormous stakes bearing the impaled bodies of Turkish soldiers. The panoramic matte, painted by Brian Flora of Matte World in Marin County, was designed to accommodate a tight shot following a horse and rider going up the mountain road, then widening with a camera tilt to reveal



Prince Vlad arrives at his castle to discover that his great love, Elisabeta, has taken her life upon receiving false word that he had been slain in battle. Vowing to avenge her death, the prince embraces the dark forces that will render him an immortal being who lives on the life-blood of others. For a shot of Elisabeta's suicide leap from the castle tower, 4-Ward Productions constructed a miniature set and a third-scale puppet of the princess.



As the camera dollied forward, the puppet disappeared over the edge and was pulled into a concealed trap door. The shot continued, uninterrupted, with the camera moving out onto the ledge and tilting down to reveal a much smaller puppet dropping away into a miniature gorge. Standing in the forced perspective set — which was dressed with fiberfill clouds — chief modelmaker and puppeteer Jim Towler readies the wire-suspended puppet for a take.

the castle. Aside from the narrow ribbon of live-action rider and road, the entire effect was achieved by way of the painting, camerawork and atmospheric effects done at Matte World. “The first Borgo Road shot was a fairly straightforward rear-projection matte painting composite,” stated Matte World effects supervisor Craig Barron. “The reason the live-action footage was rear-projected was because there was a camera pan on the matte. The actual stage was only two hundred feet long — a length that is used up very quickly when you are trying to make it look like an exterior scene of a horse running down a road at sunset. The painting started with the live-action shot of road and horse — which we reduced by about one hundred percent — and then transitioned into artwork where there would have been just the blackness of the end of the set, allowing us to fill out the frame and give the shot a scope and value that couldn’t have been obtained on any sized soundstage.”

Matte World rendered the five-by-eight-foot painting on glass. “With glass,” said Barron, “we can cut elements out very easily and add backlighting and highlights through the painting. It gives the painting a certain range — there is a much greater dynamic between things that are bright and things that are black — and it gives us more flexibility. In the Borgo Road shot, there was a separate sun exposure that flared the lens, mimicking what the live-action Arriflex would do if it was photographing into the sun. That way, our work looked as if it belonged to the rest of the movie.” The shot also included a separate haze element which represented backlit sunlight illuminating particles of dust in the air. The atmospheric effect was created by a separate painting that was wedged into the shot.

For stylistic reasons, Coppola had decided to shoot the entire film, even exteriors, on indoor soundstages at Sony Studios in Culver City, the former home lot of Metro-Goldwyn-Mayer during its glory days. The only exception was two days of London street scenes photographed on the Universal Studios backlot, across town. In all, seven soundstages and more than sixty sets would be utilized during the fourteen-week schedule. On Stage 15, a football-field-sized edifice that fifty years earlier had housed settings for *The Wizard of Oz* and had only recently been cleared of the *Hook* pirate town, production designer Tom Sanders and his crew constructed an oval-shaped track around the inside perimeter, with dirt and mountain faces built up along the sides of the stage to represent the Borgo Road locale. Shots requiring larger vistas were relegated to the effects units.

The first Borgo Road shot leads the victorious *Dracula* homeward to the true love of his life, Elisabeta. He is filled with foreboding, and rightly senses that something is terribly wrong at the castle. Elisabeta has received word that her prince was slain in battle — a duplicitous message sent on an arrow by the Turks — and has jumped to her death in the river gorge below. Not originally boarded, the shot of the aggrieved woman’s suicide was added as an afterthought to clarify the story point — a decision made after Winona Ryder had left the show and was no longer available for the sequence.

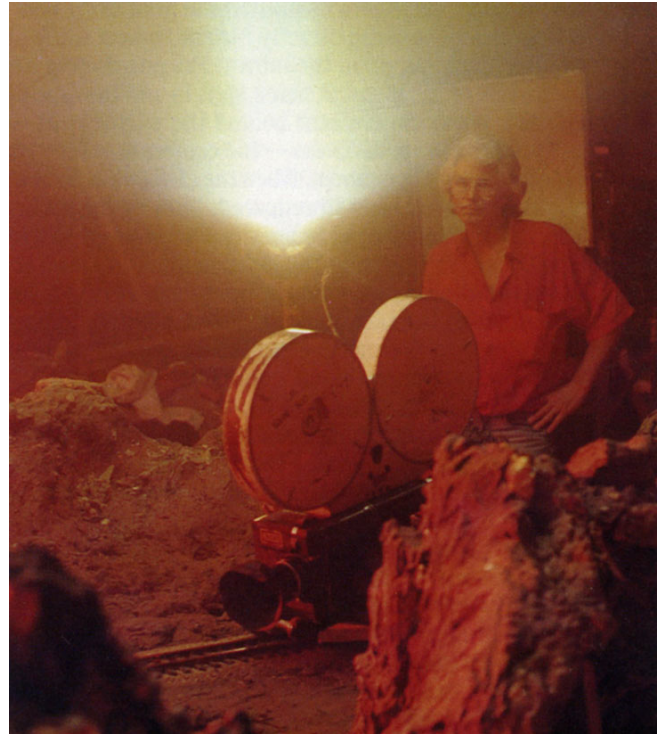
The belatedly conceived sequence was turned over to effects directors Robert and Dennis Skotak and effects producer Elaine Edford of 4-Ward Productions who were already handling several other shots for the film. “We needed to come up with a shot of some sort that would illustrate Elisabeta’s death,” explained Robert Skotak. “We concocted one starting inside the castle on a closeup of the letter, which presumably Elisabeta has just read and dropped on the floor. The letter contains the bad news that *Dracula* is dead. An arrow is lying next to it. The camera tilts up to reveal a doorway

leading out to the balcony, to a bright sunlit day. We see the figure of Elisabeta walking towards it. She steps up on the balcony, jumps off and falls away. The camera follows her out and tilts to see her falling in the distance far below. We did the entire shot in-camera, as a continuous take, with no breaks or dissolves in between.”

A half-scale letter, a miniature set, and puppets in two different scales were required to achieve the shot. “We put the letter and arrow on a miniature floor in an interior room that was about third-scale,” Skotak continued. “The foreground was half-scale to help the focus. We had a third-scale puppet of Elisabeta that was operated by Jim Towler, who also built it. This puppet could walk out to the ledge. We had a camera mounted on a dolly cart which we custom-built for the shot. The camera tilted up off the letter, then started moving forward as the puppet stepped away. As the camera moved through the doorway, the door — which was set up on sliders — split in the center so we could pull it apart to make room for Jim Belkin, the cameraman. As it went over the edge, the camera would lag behind, but continue moving forward slightly; so Elisabeta would drop out of sight for a couple of seconds. Before the camera catches up to her and tilts over the edge, however, the puppet was pulled into a trapdoor we had built into the side of the castle. When the camera actually looked down off the ledge, it saw a second, smaller puppet mounted on wires above the gorge miniature — which we had built for another shot and decided we could reuse. The puppet traveled downward, creating the appearance of having fallen a great distance.”

Dacron fiberfill clouds were layered to create the sensation of height and to enhance the dreamlike quality of the shot. “We were purposefully a little vague about the reality of the shot,” commented Skotak. “We wanted it to be somewhere between an almost telepathic impression and a dream. The clouds were in layers so that when we come out we see all sorts of strange-looking cloud formations above the gorge. We’re high up in the air at an almost impossible, dreamlike height. We embellished the model and widened the river slightly, lighting it to give it a dreamy, burned-out look. We used a little bit of oil on a piece of glass in front of the lens to smear the image in a kind of classic, Forties movie style. Since the camera was positioned extremely high to maximize the depth of the gorge, we were pressed right up against the ceiling of the stage — about eighteen feet at that point. The camera magazine was almost touching the ceiling. The shot was meant to play as a psychic impression, which fits the style of the movie. Unfortunately, in our opinion, a not so dreamlike take was chosen which was less ‘gauzy’ and normally timed. The earlier versions of this shot were timed rosy-red and were, we felt, much more effective.”

Elisabeta’s death is more than devastating for the prince, it is the impetus that sets him plunging into eternal darkness. *Dracula* is told by a priest that the suicide has forever damned his Elisabeta, and he responds with a vow to arise from his own death and avenge hers with all the powers of darkness. He drinks from a communion goblet filled with a mixture of holy water and Elisabeta’s blood, then impales the chapel cross with his lance, causing a torrential disgorgement of blood. Michael Lantieri and his crew were responsible for the effect, which required eight thousand gallons of fake blood — actually a biodegradable blend of water and colored methocel. Two four-thousand-gallon water tanks were filled with the mixture, which was delivered to the set on cue by high velocity pumps.



As the action shifts to the nineteenth century, solicitor Jonathan Harker (Keanu Reeves) embarks on a transcontinental journey to Transylvania where he intends to finalize the sale of some London real estate to the reclusive Count Dracula. For scenes of the Orient Express wending its way through the mountains, *Fantasy II* constructed miniature sets and a twenty-fourth-scale train. Visual effects supervisor Gene Warren studies a point-of-view setup achieved by mounting a camera directly on the miniature train rails.



Landscape sets were aligned in multiplane fashion and photographed at varying speeds to achieve the background scenery observable from within the train compartment.

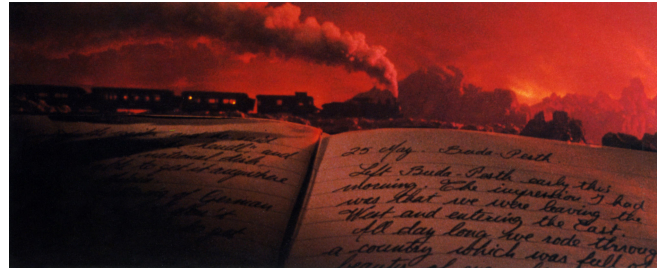
The action then shifts from fifteenth-century Transylvania to nineteenth-century England, where Mina Murray, a latter-day double for Elisabeta, is visiting her friend, Lucy Westenra (Sadie Frost), at Hillingham, the opulent Westenra estate. Hillingham was created as both a full-sized interior set on a Sony soundstage, as well as a hanging miniature built as a joint venture by the *Dracula* model shop — supervised by Leslie Ekker — and the effects crew at Fantasy II. “Most production companies won’t even attempt to do a hanging miniature on their own,”

commented Alison Savitch. “It’s too hard to get everything exactly right. Bill Neil — our miniature photographer who shot both the Hillingham and Carfax Abbey models — had to get this little Hillingham house, which was five feet wide by three feet tall, lined up precisely so that it appeared to be situated on a hill, with miles of driveway leading up to the house, and then miles of land beyond. We did all this in the space of fifty square feet. To create the forced perspective, we built full-sized gates and set the miniature about fifteen feet back. We had full-sized carriages driving by, as well as the actors standing in front of the gates. They had to be positioned just right, or it would throw off the perspective of the shot.”

At Hillingham, we learn of Mina’s betrothal to the young solicitor, Jonathan Harker (Keanu Reeves). Traveling aboard the Orient Express, Harker embarks on a mission to exotic Eastern Europe to close a transaction for a mysterious prince interested in acquiring property around London. A miniature train was designed and built by Fantasy II, along with a mockup of the stark and dramatic Carpathian Mountains. “The miniature train was about as small as we could go and still maintain reality,” explained Gene Warren. “In fact, it would have been a lot easier to maintain reality if it had been slightly bigger. Unfortunately, from a budgetary standpoint, we had to pull it off at twenty-fourth scale.”

The miniature engine ended up being twelve inches long, with six smaller cars following behind. Fantasy II’s Scott Beverly rigged a billowing smokestack and steam coming out of the pistons. The train was shot high-speed with motion control moves programmed by Chris Warren, and was employed as part of a multiplane effect. “For scenes inside the train,” Gene Warren continued, “we did a number of background plates in Vistavision where you see the terrain outside moving by. We had multiplane sets set up for those. They were long shots, about twenty seconds each. Twenty seconds may not seem like a long time, but when you’re trying to put scenes and action in front of it, generating twenty seconds of traveling background at thirty-five miles per hour — which was the speed at which the train was moving — required a lot of background.”

To achieve the backgrounds, Warren’s team utilized the miniature mountain set, as well as dressed set pieces mounted on tracks that moved opposite to the camera. “The camera only moved a short distance; so the distant mountains and the sky were moving very slowly, just like they would in reality. The farther away something is, the more slowly it moves. The midground and foreground — represented by the dressed set pieces — moved faster.” The Carpathian Mountains model used as background for the train shots reached six feet at its highest point and extended about thirty-five



Employing stylized imagery, Coppola combined a closeup of Harker’s journal with a long shot of the Orient Express chugging through a blood-red, misty environment.

feet in length. The mountains were backlit with orange gels to create the blazing, larger-than-life sunset for the sequence. Later in the film, the set was relit for a daytime chase scene through the hilly terrain.

Generic segments of the mountain miniature were moved about and used again and again. There were also some specialized pieces built specifically for each shot. “We only built as much as the camera was going to see,” continued Warren. “We used a Reflex Mitchell camera for stage shooting, and our own stop-motion Bell and Howell Vistavision for the background plates. They were shot at a very slow speed. These cameras are old — the newest one was built around 1952; and the oldest one, a Mitchell Standard, was built in 1926 — but we’ve had them updated and high-teched out. Most effects houses use Mitchells because they have the most reliable movements, and they are also the most cost effective. You can equip them with Nikon lenses and configure them for Vistavision formats, rather than spending up to \$100,000 on the latest Panavision or Arriflex camera, which still use Mitchell-type movements.”

As the Orient Express carries Harker to his ultimate destination, he writes one of several journal entries drafted by various characters throughout the film. In the original novel, the plot unfolds entirely through the perspective of journal and diary accounts, as well as letters and phonographic recordings. A similar device is employed in the film. In some instances, the journal entries were split into scenes as in-camera composites achieved through the use of fifty-fifty mirrors. “Fifty-fifty mirrors were something that both Francis and Roman really wanted to integrate into *Dracula*,” Savitch noted, “because they were used a great deal in the early days of film. It is a very old technique that effects facilities have been using all along. Because of that, people like Bob Skotak and Gene Warren were very helpful in helping us to adapt this traditional effect. ‘Fifty-fifty’ simply means that fifty percent of the light is transmitted through the mirror and fifty percent of it is reflected. Actually, ‘fifty-fifty’ is a generic term for all combinations — there are also forty-sixty and seventy-thirty and so on. We found, however, that the standard fifty-fifty mirror was best for what we were trying to do, which was to get an image on both sides of the mirror. It was the purest of the choices.”

A fifty-fifty mirror — also called ‘ghost glass’ — is used much like a scrim in the theater. It can be mounted either slightly to the side of the camera lens on a diagonal, or in front of the camera so that the lens is looking directly into the mirror while at the same time reflecting off of the mirror. The positioning depends on the size of the element being split in and the type of angle required. When the element behind the mirror is lit — while the front remains in darkness — the camera sees directly through the mirror to the element. When the element in front of the mirror is simultaneously illuminated, both elements become visible at the same time. Images can be brought in and out of view by simply adjusting the light source.

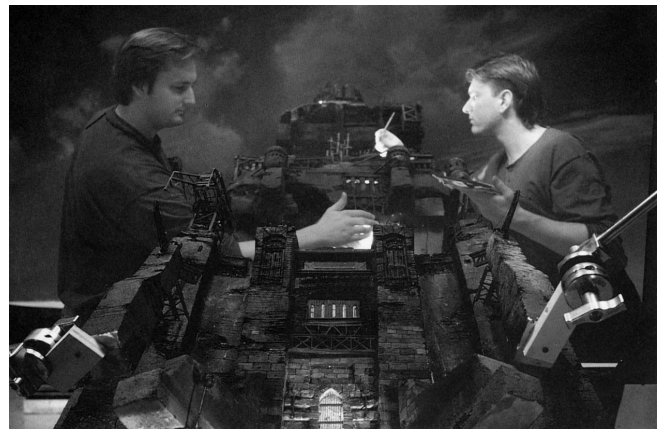
Harker's instructions upon arrival in Transylvania are to meet *Dracula's* carriage at the remote Borgo Pass, at which time he will be transported to the castle. Despite warnings by a few of the locals, Harker boards the counts ominous black coach, literally being placed in his seat by the remarkably lengthy reach of the driver. Michael Lantieri and crew were responsible for the floor effect which was achieved by the utilization of a sliding seat and camera pan. "We built a seat on the coach that could slide out about six feet," said Lantieri. "As the driver reached out, the camera panned with him and the seat slid at the same time. He didn't seem to be moving at all, so it appeared as though his arm extended out about seven feet to pick up Harker, lift him off the ground and put him into the coach."

Harker's journey towards the castle is marked by a harrowing glimpse of wheel rim running along the chasm edge, with the inherent threat of a thousand-foot drop. The shot was provided by 4-Ward Productions. Constituting the foreground edge of the road was a quarter-scale strip of ground on a track, and a wheel that rode along the strip. Below that was an elaborate, partially forced-perspective miniature of the chasm — fashioned by Joel Steiner, Jim Towler, Pat Denver and James Cook — that ran approximately twenty feet in length with a depth of six feet. It was made out of plaster, reinforced with bond-o, and had a plexiglass river bottom. It was also mounted on a track. The camera was aimed downward and was kept in a stationary position, with the wheel mounted immediately beneath it. The sequence was shot at forty-eight frames per second while the strip of ground was pulled by on the track very quickly, with the chasm below moving by at a slower rate, thus creating the illusion of great distance. The final effect showed the wheel just kissing the edge, ready to slip off, as the river snaked through the gorge below. Dust and rocks made of plaster and styrofoam were rigged by Steiner and Towler to fall and catch the air; so even though they dropped only six feet, it looked as if they were falling a great distance at a very, very slow rate. Dry ice along the bottom of the chasm created the ambient atmosphere.

The supernatural aura surrounding Harker's journey is enhanced when wolves hover ominously at the edge of the darkness and a strange blue flame suddenly floats in the night up ahead. The eerie



Hillingham, the Westenra country estate, was built by the production model shop — under supervisor Leslie Ekker — on stage at the Sony Studios where most of the film was shot. To lend verisimilitude to the five-foot-wide miniature, forced perspective techniques were employed to incorporate foreground carriages and actors into establishing shots of the mansion.



Many of the Castle Dracula exteriors photographed at Matte World were also achieved using miniatures. For a dramatic up-angle on the ancient stronghold, the essential model was divided into three parts, with scrims positioned between each receding section to create a sense of aerial perspective and haze. Effects supervisor Craig Barron attends to practical lighting within the castle, while motion control cameraman Cameron Noble applies touch-up paint to some of its surfaces.

vision comes directly from the original story which maintains that, according to legend, the blue flame may be seen where a treasure has been buried. To create the flame on film — an image similar to one featured in the F.W. Murnau silent film *Faust*, and which Coppola was eager to incorporate into *Dracula* — a technique that was a combination of low- and high-tech was employed by Fantasy II. “We updated the Faust effect,” admitted Warren. “Basically, it was a matter of motion controlling a rubber cement flame.” The effect was shot against black on a ring of flat sheet metal with narrow walls built up around it. That rig was mounted on a motion control post that allowed for up and down movement. Rubber cement which had been dyed black to better hide the substance was poured into the sheet metal ring and ignited. The camera, which was also rigged to move up and down, started in a position above the flames, then dropped — thus making the flames appear to rise.

Artistic lighting was essential to the look of the flame. “We used a lot of blue gels,” Warren said, “and, with the right exposure, we were able to get variations of blue. It is not chemically possible to make blue burning flames. You can make bluish flames, but not a true blue. We also shot the flames at different frame rates to give them a certain amount of energy. Since it was a ring of flame, we had to have a big blower directing air into the middle of the fire; because the minute the flames got up high enough, they started to bend in towards the center.” Warren was satisfied with the final effect. “The blue flame was not so much subtle as it was surreal. Many of the effects in *Dracula* weren’t dazzling — after all, this wasn’t *Star Wars* — but they added to the stylized look of the film. And a lot went into making some of these subtle elements.”

As Harker nears *Dracula*’s castle, the sad decay of the once mighty stronghold becomes evident. An establishing shot from the Borgo Road was rendered as a Matte World painting to provide an updated glimpse of the castle, considerably changed in the four hundred years since its owner’s fateful battle with the Turks. The design of the original fifteenth-century edifice was intended to convey the image of a newer structure — an erect symbol of power, wealth and exquisite taste. The nineteenth-century version reflects the ravages of time, as well as the inner state of its occupant. “We wanted to convey the idea of a structure that had grown and changed through the centuries,” explained Tom Sanders. “Francis wanted the design to suggest that the castle had been worked on and repaired under different stylistic influences during that four-hundred-year span. He wondered, for example, what it would be like if someone like Alexandre Gustave Eiffel had come along and shored it up with steel. We had layers and layers of history to deal with. Within the castle were old rooms and outside were the remainders of turrets — and we imagined that the castle had been eroding from the bottom up. We used those ideas in the interior design. We took all of the possible elements and gave each room its own background and history.”

The exterior castle design went through several incarnations before landing at Matte World for its final rendering. Conceptual artist Mentor Heubner was commissioned to produce some of the early sketches, with the design evolving and changing as the Coppolas revised and refined their vision. Matte artist Sean Joyce was finally brought in to assimilate the various ideas and pull together the definitive version of Castle *Dracula*. “It’s really an emotional sequence when you see that the castle has been decaying,” commented Craig Barron. “It represented the feelings of the characters in the movie. The castle itself seemed to have a human quality — as if it were actually a character that was suffering. Francis had very strong ideas about the emotion he wanted to get into the scene, and

he was very articulate when it came to expressing what he wanted. He was also open to our ideas and willing to take advantage of whatever would enhance his concepts. Originally, for example, we were going to do just matte paintings. But Francis, I think, was very happy with the aesthetic sense we provided; so we wound up building miniatures for some additional shots. It seemed a reasonable idea to give the job to one group of people so that the miniature castles would match the matte paintings, and vice versa.”

Jack Haye, John Goodson and Howie Weed were responsible for building the small-scale castles — both the older, decayed version and the castle as it would have been in the fifteenth century. The basic castle was made in three different sections so that scrims could be placed in-between to create the illusion of atmosphere, thus giving the feeling that the structure was receding back into the haze. “We did several types of tests,” commented Barron, “to determine the amount of haze Francis and Roman wanted to see, for example, or the amount of detail on the stone and masonry work. By using separate components and doing tests, we had more control over the shots. When we set up our shots, we are creating a little world. We start from the storyboard, but we might find that the scene looks better if we lower the camera a bit. Well, if these were all separate elements that had to be sent to optical for compositing — which is more of a traditional special effects approach — we wouldn’t be able to lower the camera, because then all the rest of the work wouldn’t matte. But since we’ve created this little world, we can take advantage of the benefits of having that world to manipulate. That way we can move the camera, we can alter the amount of haze in a scene, we can make lighting changes. It gives us a lot more flexibility. It also gives that extra dose of realism that the camera movement suggests.”

Although motion control is a vital part of creating that ‘little world,’ Matte World routinely attempts to avoid the mechanical, sterile look that computer control can create. “When we motion control our camera moves, we basically program the move and then go back and make it a little more sloppy. For example, we might have the camera panning one way, and then decide to pan the other way for no real reason — just as if there was a human quality where the cameraman might have turned the wheel the wrong way, or he might be trying to do something interesting with the scene. Basically, a camera operator is hunting for compositions. He’s looking through the viewfinder, composing the look of the scene as he goes. We do that, too. We find compositions in the paintings and work out the primary and the secondary compositions, the start and the stop of the move. We try to lead the eye into the scene, to keep it flowing and then make it look very natural, as if it were photographed by a first unit camera operator.”

Harker arrives at the castle gates by way of a matte shot that reveals his point of view looking up at the imposing structure. For the shot, the camera tilted up on a miniature castle, with rear-projected torches added for a touch of realism. The castle was outlined against the night sky by an off-camera moon illuminating backlit blue clouds.

As Harker is about to have his initial meeting with *Dracula*, the action shifts back to England where Mina is typing a journal entry — a simple scrim effect — that tells of Lucy's courtship with three handsome, eligible bachelors. The flirtatious maiden clearly delights in teasing the serious Dr. Jack Seward (Richard E. Grant), who runs the local insane asylum, while also enjoying the attentions of Texas cowboy Quincey Morris (Bill Campbell). Ultimately, she decides to marry her third suitor, Arthur Holmwood (Cary Elwes), the future Lord Godalming. As Mina records her impressions of the odd courtship ritual, a grotesque shadow seems to intrude upon the light and passion of the moment, covering her and transporting the scene back to Transylvania where her hapless fiancé is being greeted by the count.

The shadow motif is used liberally throughout *Dracula*. Although in Stoker's original story the vampire casts no shadow, the Coppola team opted to follow the influence of Murnau's *Nosferatu* — the first, albeit, unauthorized film version of *Dracula* — in which shadows were quite prominently featured. "We used dozens of different shadows to create *Dracula's* presence," explained Alison Savitch. "Being supernatural, he can misplace his shadow; and we used that idea a lot. One of the ways we created the shadow effect was to use a projection screen and put a mime behind it dressed in the same costume and wig piece that *Dracula* wore. He had the same fingers, too, and he moved and gestured like *Dracula* might have. Of course, behind the screen, it created a different shadow than what the actual *Dracula* would have cast, which was very effective."



The coach conveying young Harker to Castle Dracula never actually left the confines of the studio soundstages. For wide shots, plates were photographed on indoor settings and then delivered to Matte World for augmentation via paintings and miniatures.



The first contemporary view of the castle — in ruins after four hundred years of neglect — was a fully rendered matte painting except for its narrow road and horse-drawn conveyance. Imparting life to the shot was a

With our reintroduction to *Dracula*, we discover that he has become a tall old man, handsome and horrible at the same time. Makeup effects supervisor Greg Cannom of Cannom Creations was responsible for transforming Gary Oldman into the aged vampire. “We decided to do the makeup of an eighty-year-old man,” stated Cannom. “I sculpted and designed the makeup, while Mitch DeVane, my lead sculptor, finished off the detail work. The makeup had fourteen foam rubber appliances and took about four hours to apply. Gary Oldman wore finger extensions and back-of-the-hands prosthetics. I wanted a translucent quality to the skin, so I airbrushed some dark blue-gray veins which were layered into the makeup. When the makeup was shot, there was no filtering used and they got very close with the camera — which is a difficult situation with makeup. But on film, the veins appeared deep in the parchment-color skin, which was yellow-toned and very fair. Gary also wore old-age contact lenses that were made by Dr. Morton Greenspoon and Dr. Rick Silver.”

In terms of attire, Coppola wanted an oriental influence to be reflected. Costume designer Eiko Ishioka, an internationally renowned multimedia artist, incorporated this notion into the visual style of her costumes, as well as considering the art of symbolist and surrealist painters and the historical influences of the Victorian era.

The trappings of the castle reflect a variety of eras and influences as well. Greek and Roman statues line the stairs, while European art and medieval tapestries appoint the ancient walls. *Dracula* is clearly a man of wealth and taste. Though Harker is uneasy with his elegant host, he is buoyed by the coup of overseeing *Dracula*’s purchase of Carfax Abbey in London. After dining and sharing with the count a small photoplate of Mina — an image that seems to have unduly captivated his elderly host — Harker retires to his chamber for the night. There, in the midst of shaving after the long journey, he is surprised by a visit from the count. Although *Dracula* may cast a shadow, he does not cast a reflection; and thus, Harker fails to see the vampire in his mirror as he is approached from behind. Michael Lantieri and crew rigged the gag as a floor effect. “We built a wall that was, in reality, not a mirror — it was a frame on both sides. We stood Keanu on the other side of the wall and shot through the frame with a double standing in with his back to the camera. We used a look-alike who wore the same clothes so it seemed like Keanu’s reflection in the mirror. When Keanu raised his right hand, the double raised his left hand, and so on. We timed it so that *Dracula*’s arm came into the scene and onto Keanu’s shoulder as though it was coming out of nowhere. You don’t see the reflection of *Dracula* in the mirror; you only see his hand coming into the foreground of the camera. We did it all in-camera — there was no optical, just a set with a phony mirror and a double.”

The count admonishes Harker not to leave his rooms at night and to avoid falling asleep in other parts of the castle. The castle is old, he is told, and harbors many bad memories. Harker obeys for the time being, but is drawn to the window by a strange rustling sound. Looking out, he sees a dark figure slowly emerge from a nearby window and crawl lizard-fashion down the castle wall. Horrified, he realizes it is his host. To achieve the effect, the live-action unit did a tight locked-off, up-angle shot of Gary Oldman moving down the castle wall. To make the shot convincing, however, a point of reference out the side of the castle was required. 4-Ward Productions added the castle

motion control pan, randomized slightly to suggest the
Dismounting from the coach, Harker gets an imposing
view of the unmoving edifice — a tilt-up on the Matte
World miniature with rear-projected torches and backlit
blue clouds.

turret and sky effect that lent a sense of reality to *Dracula's* descent. "Generically, this shot fits into the category of matte painting," commented Robert Skotak, "although we really didn't do much painting at all. We projected the footage of Gary, using a low contrast register print. Then we set up our camera to rephotograph that print, and set a beam-splitter in front of the camera. Off to the side, we rigged a small, three-dimensional model of the castle turret, built by Pat Denver. We darkened a corner of the production image, utilizing the beam-splitter to double-expose the model into the shot. We also put a little torch at the very top in the distance. When you looked through the camera, you actually saw the model lined up in perspective with a full-scale fire on top. On the same surface that we were projecting the image of *Dracula*, we had several slide projections of clouds and a separate transparency of the moon. It was a way of doing the effect in-camera while still manipulating elements. We did one pass that showed the castle wall projection, the moon and cloud projections, and the castle turret. Then we wound the film back and did a second exposure on the fire with a slight refocusing at forty-eight frames per second."



Having entered of his own free will, Marker is led through the castle's opulent decay by his now aged host and delivered to the Great Hall where the transfer of Carfax Abbey is to be consummated.

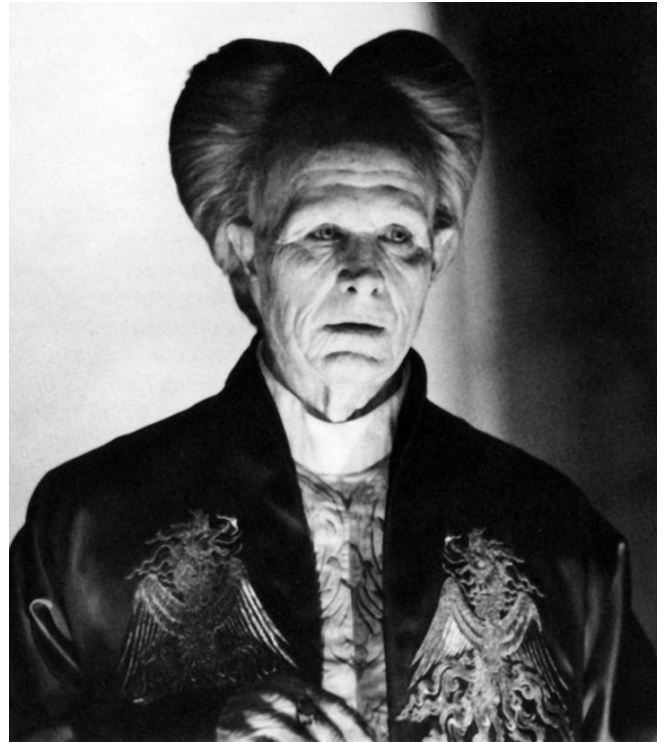


Cautioned not to stray from his sleeping chamber, Harker nonetheless ventures out at night and falls asleep on a gigantic bed in a room frequented by Dracula's brides. Emerging from within the bed, the three female vampires seduce the young solicitor and feast upon his blood. For the scene, floor effects supervisor Michael Lantieri and crew built an oversize bed with concealed trap doors so the women could hide within.

Baffled by the prince's inexplicable maneuverings, Harker writes in his journal, "What manner of man is this?" The story segues to Dr. Jack Seward asking himself the same question regarding his spider-eating patient Renfield (Tom Waits) who resides at Seward's asylum. Renfield, it seems, was the solicitor originally sent to Transylvania to seal the real estate deal with *Dracula* — a departure from the novel, rooted in the original stage adaptation and perpetuated by the classic Tod Browning film starring Bela Lugosi. Returned to England with an insatiable hunger for life in any form, Renfield has ended up under Dr. Seward's care. The design for the asylum was representative of the Coppola penchant for original thinking, the notion being that the building had once served as a slaughterhouse prior to being converted into an asylum. Gene Warren and Fantasy II created a miniature of the asylum that was used in combination with the live-action set built on Stage 23, which had been extended with mirrors to impart the illusion of greater size. While only three cells had actually been built, huge frames with gimbaled mirrors were tilted to suggest an entire wall of cells. For a scene later in the film, a live-action shot of Renfield yelling out of his window was rear-projected into a window of the miniature. The effect was that of Renfield at the window of a full-sized slaughterhouse-turned-asylum that, in fact, existed only in the collective imagination of the *Dracula* production team.

Back in Transylvania, Harker fails to heed the count's warning against nocturnal meandering, and ventures through the darkened castle corridors. Hearing feminine laughter, he stumbles upon the old, but not altogether abandoned, women's quarters. Exhausted by the day's events, he lies down on a sumptuous bed and is overcome by the three brides of *Dracula* who emerge from within. Michael Lantieri and his floor effects crew built a bed rigged with trap doors where the three women could hide, concealed by the mattresses. The bed was built in forced perspective so that it appeared to be very thin, though in actuality it was equipped with ample space for the women.

During the scene, one of the vampiric brides slits Harker's chest with a sharp fingernail and then bites his nipple. The wound and fountain of blood that squirts from it into the bride's mouth were achieved via a fake chest and rig designed by Greg Cannom. Cannom also designed the lavender contact lenses worn by the women. The seduction/rape of Jonathan Harker is interrupted by *Dracula*'s unexpected return. The count appears at the window and moves toward the bed in one smooth, swift motion. Lantieri's crew rigged a dolly-like track that ran the entire length of the set. During the shot, Gary Oldman stood on the track and was drawn smoothly the thirty-foot distance between the window and the bed.



Requiring four hours to apply, the old-age makeup worn by Gary Oldman consisted of fourteen appliance pieces designed and fabricated by makeup effects supervisor Greg Cannom and his Cannom Creations crew. Contributing to the overall effect was costume designer Eiko Ishioka who wove oriental themes into her wardrobe concepts.

Upon returning to his own bedroom, Harker — shaken by his experience with the prince and his unholy followers — contemplates escape. Peering down from his window to the courtyard below, he observes a band of gypsies loading dirt into black boxes. The point-of-view shot was rendered by 4-Ward Productions. A camera was mounted at the top of a miniature courtyard set that measured ten feet in height by fourteen feet across. The gypsies were actually eighth-scale puppets attached to a rig built by Jim Towler. A puppet move on a miniature horse added realism to the shot. Another shot in the sequence shows Harker moving along the outside ledge of his window. As he traverses the narrow space, he looks down and we can see his feet in the shot of the chasm below. Essentially, the shot was done using the same courtyard model, with miniature shoes hand-puppeted on the ledge by Towler who was positioned just below camera. Jim Belkin's queasy camera move outward and back enhanced the precariousness of Harker's position.

4-Ward was also responsible for an expansive establishing shot featured in a subsequent sequence in which *Dracula* sets sail for England aboard the schooner *Demeter* and arrives upon the crest of an almost symphonic storm. 4-Ward's assignment was to reveal the ship's arrival at a harbor near London. "The point of the shot was to show the ship coming in," explained Bob Skotak, "and to show the relationship of the ship to various landmarks key to the storyline. Stock footage from *The Bounty* was used for the ship at sea, but there was a need to more graphically show the ship arriving and landing. The sequence starts out with a frame of the coastal fishing village, and then reveals that the village is against the flank of a big hill, on top of which sits Hillingham. London is visible down below, in the distance. We wanted to show this relationship to bring together those elements of geography. This was done primarily as a matte painting that I did of London, the hill, Hillingham and the sky. The ships and part of the village were three-dimensional models and paintings in front of the matte painting. There was a layer of cloud painted on the glass. The ship itself was actually a twentieth-scale model of the prow only, built by Zen Mansley, which was rigged on a track that moved it into the shot. We added fog and a light effect done with a tray of water-suspended mirror fragments that reflected light to suggest wave ripples on the side of the ship."

For depth and scope, 4-Ward employed a multiplane technique. "The sky, hillside and village were all separate," said Skotak. "We did the shot in multiplane so that we could pull things out and switch them around without having to repaint certain areas when we realigned them. That allowed us to remain loose for various changes in lighting and values without having to redo the painting. It was a very picturesque shot — Francis described it as a classic 'scary-house-on-the-hill' shot from one of Roger Corman's Edgar Allan Poe films. We had specifically looked at some paintings from *The Haunted Palace* and *House of Usher*; and they influenced the look of the shot although we made it a little less stylized than Roger had for those films. In the past, audiences accepted that kind of extreme style. Our style was a little more realistic, while retaining a slightly surreal edge. We tried to find a sense of realism while aligning all the elements in nature to produce an eerie, brooding feeling."

As the ship docks, *Dracula* — in strange wolf-beast form — leaps from the deck, runs past dock workers and disappears. The storm continues and the scene shifts to Lucy's bedchamber at Hillingham. When Mina comes to check on her friend in the middle of the night, she finds Lucy missing and notices her crucifix lying on the bedclothes. Lucy has wandered in her sleep to the family cemetery where Mina finds her splayed across a stone seat with the wolf-beast on top of her.

Greg Cannom designed the creature suit worn by Gary Oldman for the scene. “I tried to design the wolf suit with batlike overtones,” explained Cannom. “I wanted him to look naked, but still animal-like. I kept the design true to the shape of Oldman’s body, but enhanced his shoulders to make them bigger. The face was very batlike and he had a huge wig on. Linda Notaro, who does costuming for me, built the suit out of spandex using a very pale skin, which was *Dracula*’s coloring. Stuart Artingstall — who worked on *Greystoke* and *Gorillas in the Mist* — did all the hair work on the suit. He tied it right into the spandex so that it looked like the hair was actually growing out of the skin.” Overseeing the fabrication of this and other Cannom creations was production coordinator J.C. Logan.

Wearing a dressing gown, Mina comes upon the carnal scene and stands transfixed in the wind and spray of the storm. Her presence affords *Dracula* his first view of the woman who appears to be the living embodiment of his long-lost Elisabeta, and the vampire-wolf sees her frozen form through a distinctive pixilation effect used throughout the movie to simulate his supernatural point of view. The pulsating imagery was achieved with a kind of stop-motion animation technique. Individual frames were clipped one at a time using an intervalometer — a device that is mounted on a camera to control single frame exposure — with occasional bursts of constant frame rate interspersed to impart a strange staccato quality.

During postproduction, a few of the key pixilation shots were sent to *Peter Kuran* and his Visual Concept Engineering for image enhancement designed to render the moments more startling and compelling. “David Emerson, who performed lineup on the shots, did a meticulous review of all those scenes,” noted VCE visual effects director Kevin O’Neill, “and then began to pull frames out and reposition individual ones. Todd Hall did the actual repositioning of the frames, to the east or west or north or south, and programmed slight exposure variances into the motion control printer.”

The first encounter between Mina and *Dracula* also included an effect dubbed ‘Drac-o-Vision,’ wherein *Dracula* actually sees through Mina’s skin to her underlying veins, arteries and beating heart. John Van Vliet of Available Light was responsible for the effect. “We originally wanted to build a ‘Winona’ body and have the internal details painted on,” Van Vliet commented. “Then we would do a push-in using a motion control rig so we could repeat the move on the real Winona. But the Coppolas said no to the motion control idea and asked us to do something that was more ‘low-tech,’ as if it were being done in the Thirties.”

Denied the ease and accuracy of motion control, Van Vliet developed a workable approach which involved photographing Ryder in the flowing dressing gown, and then in a white leotard. “We knew the shots were never going to match up one-to-one,” Van Vliet noted, “but we shot her anyway so we would have some idea of what her body looked like. With that big, billowing robe on, we had no idea where she was underneath. Then all we could do was try to duplicate the move the best we could. As it turned out, having the backup shot of Winona in the leotard really saved us. We were able to take the leotard version and make rotos off of that and then match-move it. We did all of our art on the leotard Winona and then matched that to the dressing gown Winona. January Nordman did about eighty percent of the animation — all the pulsating arteries and veins and reveals. Then, because it was ‘wild,’ my Oxberry operator Joseph Thomas and I had to shoot, test and match-move everything six or seven times — or, as we like to say, we match-moved it until our eyes bled. Winona hadn’t been on a brace of any sort — which would have been great for us, because it would have

made her stand stock still; but it also would have made her stiff, which wouldn't have looked good theatrically."

As Mina guides Lucy back to her bed, the wolf-beast *Dracula* steals away to his coffin at Carfax Abbey where he soon undergoes a chrysalis-like transformation into his younger, more handsome form. Carfax Abbey, depicted in miniature, was created as a joint venture between the *Dracula* model shop at Sony Studios and Fantasy II. Greg Cannom and crew effected the transformation. Under normal circumstances, the chrysalis effect would have been a likely candidate for digital morphing, but Coppola preferred a more physical methodology. "He wanted to do transformations like they used to do in *The Invisible Man*, where you actually saw the changes happening," said Cannom. "I agreed with this approach completely. *Dracula* is such a classic story that computer-type effects just wouldn't have fit."

Mechanical engineer Larry Odien built a replica of Gary Oldman's head that was capable of collapsing down into a near-flat surface. "We put a very thin, flexible, clear urethane skin membrane over it with tubes going in. Then some veins were painted on the skin to hide the tubes. We filled the tubes with Karo syrup blood, and yellow and clear liquids, so that as they filled, the head tended to collapse into a blob. It would then flatten and spread out over the dirt in the coffin. In reverse, you would see a flat kind of blood clot sitting there that would raise up and form into Gary Oldman's face — then his real face would begin to be revealed through it. Larry motion controlled the head so that it moved and collapsed just about the same way every time. It was a very organic effect — disgusting, but interesting." A shorter version of the transformation — sans the blood clot effect — appears in the final film.

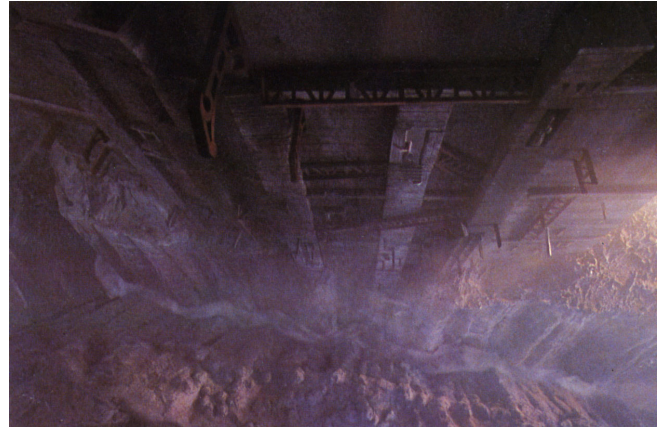


For an eerie shot of Dracula climbing head-first down the castle wall a live-action plate of Gary Oldman crawling over a horizontal wall piece was shot at a severe angle. 4-Ward Productions then rephotographed the footage, using a beam-splitter to position a miniature turret into the frame, together with cloud and moon projections. A second pass was employed to insert a distant blazing torch.

Dracula emerges from this rebirth a young and vital man, ready to experience the life-throng of the bustling streets of London. On an outing, he spots Mina in a crowd and their eyes meet. She looks away, but is somehow compelled to look again. An early turn-of-the-century Pathe crank camera owned by Coppola was used during this first encounter to give it an old-fashioned newsreel flavor, with cinematographer Michael Ballhaus hand-cranking the venerable antique.

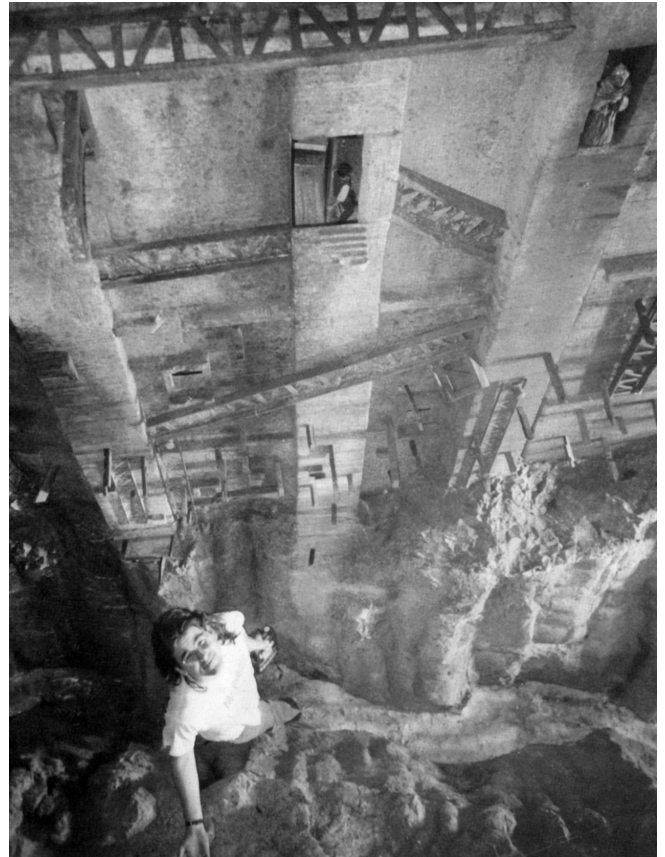
Like the previous pixilation scene, postproduction enhancement of the footage was achieved by Visual Concept Engineering. "Again, we repositioned frames so that there was never a clear center point," said Kevin O'Neill. "Roman had come in with a book on early color photography — basically color plate photography where there were yellow, magenta and cyan plate separations made and then overlaid to create unusual patterns of red, yellow and blue. He wanted to emulate that look. So we took the concept of creating color separations as you would for a bluescreen, going to extremes with each separation. Then we printed it back to a very grainy stock that Kodak suggested — 5224 — which we couldn't actually buy from Kodak because they didn't make it anymore. Graciously, they located a large amount of the stock for us at a studio, so all of that scene was handled with this very grainy stock to give it a kind of early photography look. We also did the color separation process here to give all of that undulating granularity a life of its own."

Avoiding the mesmerizing stranger, Mina enters an apothecary; but *Dracula* never loses sight and eventually presents himself to her outside on the street. Despite her proper Victorian protestations, *Dracula* manages to charm the young woman. He then follows her into a movie theater — or 'cinematograph' — for a scene which features more of the Pathe camerawork. Because the birth of Stoker's novel had coincided with the birth of cinema, there seemed to be a solid connection between the two. Thus, for this film, research into the history of motion pictures had been almost as imperative as research into *Dracula* himself — especially since Coppola was dedicated to the idea of implementing old-style moviemaking techniques. The cinematiq sequence made good use of that research and served as a tribute to early film trickery. "I've always been interested in theatrical magic," commented Roman Coppola, "and my dad was aware of that. So when I started to do research and learn about the history of effects, it was interesting to find that the first filmmakers were actually real theatrical magicians. They were the ones who first bought the cameras and took advantage of them. In the early days, film was used as a sort of magical apparatus, so naturally many of the first films used theatrical tricks — like mirror masking, for example. We were able to use many of those early techniques as attractions in the sequence where *Dracula* and Mina go into the theater." One such attraction was known as 'Pepper's Ghost' — an optical illusion in which a sheet of glass was erected at a forty-five-degree angle with an empty coffin placed beyond. When a spectator came up onto the stage and stood in the coffin, the glass picked up the reflection of both



4-Ward also produced subsequent scenes of Harker attempting to escape from the castle by inching his way along a narrow ledge leading from his window. A partial miniature of the ancient fortress — ten feet tall and fourteen feet wide — was constructed for several shots in the sequence.

the spectator and an offstage skeleton, thereby appearing to place them side by side in the coffin. Another attraction was a puppet theater suggested by the work of Carondache. Cutout puppets made of metal were employed, together with a magic lantern, to project a great battle scene for the amusement of the gathered patrons.



The ten-foot castle wall sat perched on a cliff-top overlooking a forced perspective river gorge that was five feet deep. Standing at the bottom, Jim Towler surveys his model builders' handiwork. Above him, an eighth-scale rod puppet of Harker that was used in the sequence stands in a doorway.

Dracula entices Mina into a private dining room at Rule's Cafe where he offers her a glass of green absinthe, a hallucinatory liqueur flavored with wormwood. The absinthe green motif was used throughout the film, as in scenes where *Dracula* appears in the form of green mist. Many of the costume colors were influenced by the same thematic element. Under the influence of the drug, Mina 'remembers' *Dracula*'s homeland and recalls his involvement with Elisabeta. Her vision of a more idyllic time was conjured by matte artist supervisor Michael Pangrazio and crew at Matte World. "The shot begins as a background for a dissolve with Mina talking at the cafe," explained Pangrazio. "At first, she's in the frame alone; but then the matte shot fades up. It was supposed to suggest the influence of Maxfield Parrish — very idealized and a little hyper-real. We used the miniature castle in front of the matte background. It was actually a refurbished version of the one that Jack Hays, John Goodson and Howie Weed had built. Jack made the old, dilapidated castle first for scheduling reasons; but then John and Howie came in and refurbished it to make it look new." The four-and-a-half-foot miniature was made of foam and styrene.

One of the difficulties in photographing the castle was creating a realistic sense of depth. "If you were photographing this scene in reality," commented Craig Barron, "the camera would be miles away from the castle. But on stage, with a miniature, it was really only twenty feet away. So we have ways of adding the volume of air that would have been there if we were photographing a real castle in the distance. We made several huge frames that we covered with bridal tulle and placed them between the camera and the miniature. That helped to add atmosphere. Also, the shape and look of the castle was a very unreal thing — not something you see every day. So we had a castle that did not look real in an environment that did. We really needed to find ways of lending credibility to it." Helping the illusion were dacron clouds attached to a monofilament



Puppets were also constructed for a scene in which Harker looks down from his window to see several gypsies filling and loading boxes of soil in preparation for *Dracula*'s departure for England.



Falling snow was an essential element in many of the Matte World shots. To simulate it with a proper sense of depth and scale, matte cameraman Wade Childress used talcum powder sifted through fine mesh screens — often from a succession of drop troughs to produce a physical

spider web of lines. Rigged to drift via motion control, the clouds added another layer of realism as they floated subtly across the sky.

multiplane effect — and exposed it directly over latent image matte shots.

Falling snow also dusted and enhanced the scene, lit with the combination of a yellow-gelled key light and a cool, blue ambient fill light on the snow. By manipulating gels and lighting equipment, the crew was able to come up with the appropriate look for the shot — fine-tuning that would have been impossible if the shot had been done as a static matte painting. Cameraman Wade Childress devised a motion control rig to regulate the fall of the talcum powder snow. “Often, snow is one of the worst-looking things in effects shots,” commented Childress. “Usually it’s an optical effect; and optically, it’s very hard to make snow small enough to give it proper scale. We came up with a way to drop the snow on our miniature set using a physical, multiplaned device. We located a fine mesh screen to filter through just the right amount of talcum powder and retain anything that was too large. We were shooting it at high speed — seventy-two frames per second — so we had to have the snow fall at a given, steady rate.”

Childress used a motion control system to drive the sifters, which were five-foot-long screened troughs mounted on C-stand towers. “We had basically been sifting by hand,” he continued, “taking a number of people to tap each individual tower. The back tower established the background snow, the middle tower established the midground snow, and the front tower the foreground. Individuals moved and hit the towers; but just because of the nature of people, we found that the falling rate varied a little bit. That would have been a problem for compositing snow into a scene by projection — which is the way we used to do it. In this shot, however, we took our latent image matte shot — after we had photographed the plate on location and composited in the painting and any other elements that went into it — and then put that into our high-speed camera and multipassed that latent film through the high-speed camera to composite the snow. It was a little unnerving because what we had falling from this apparatus was what we got on our shot. Once through the camera, it was done and there was no going back. There was no opportunity to review the footage and make changes. We did tests all the way up to shooting it, certainly; but once we photographed the falling snow, that was it.”

Although the human element of crew members shaking the stands was desirable because it created a more natural, less mechanical flow, the technique also presented some problems. “If somebody hitting the snow trough happened to get a cramp or something in the middle of it, that could mean trouble. So we decided to rig motion control motors to simulate the nature of a finger hitting the C-stand — which we found to have both the resiliency and movement that worked best for the effect. It also made it repeatable. The rig was made with little wheels that were based on the principle of a Tinker Toy, except we used springs in place of the little wooden spokes. We ran them at varying speeds to get the snow to fall at a consistent rate — that way we could establish numbers and do tests to see what worked best. We also discovered that temperature affected the rate of the snowfall. We shot in the morning versus the afternoon because the heat on the stage changed the nature of the effect.”

As *Dracula* and Mina get better acquainted, Lucy’s health begins to deteriorate alarmingly. She is becoming thin and gaunt, with receding gums and symptoms of acute anemia. Her former suitor, Dr. Seward, calls on his longtime friend and mentor, Dr. Abraham Van Helsing (Anthony Hopkins), to

solicit his assistance in the diagnosis of Lucy's mysterious ailment. Van Helsing examines Lucy and finds tell-tale vampire bites on her neck. Then he lifts her upper lip to discover tiny eye teeth buds beginning to surface between her existing teeth — an effect developed by Greg Cannom's team, which also created similar 'fangs' for Gary Oldman. Whereas most of the extended canines featured in the film were simple implants, Oldman's fangs had to mechanically contract and expand. Larry Odien, who developed the device, wanted to improve on past attempts to make growing teeth. "Typically, people have used flexible teeth that are stretched down," stated Odien. "I don't think that's been very successful. I wanted to do it with rigid acrylic teeth, in a completely self-contained piece. What I made were long fangs, but they retracted underneath a foam latex appliance that was shaped like Gary Oldman's gums. When you looked into his mouth, you would think you were seeing his gums, but it was actually this foam piece. It was tissue-thin. I had to make everything as tight as possible so that it wouldn't bulge out of his cheek or anything like that. The fangs were activated by a spring wire device that Gary could operate himself with his tongue. He would press the appliance and the fangs would come down."



Dracula arrives in England via ship — having decimated its crew during the passage — and escapes into the night mist in the form of a fearsome wolf-beast. The full suit and makeup — designed by Greg Cannom and executed by his crew — combined human and wolf elements with those of a bat

Van Helsing alone understands the nature of Lucy's condition and the tremendous power of the evil forces at work. In an attempt to save her, he applies the latest medical technology — blood transfusions, with her fiancé and former suitors as donors. Lucy, however, continues to fail. Meanwhile, back in Transylvania, Jonathan Harker finally escapes from the castle and its female vampires who have been feeding on him, but only in moderation. When word reaches London, Mina immediately leaves to bring her fiancé home — and while she is abroad, her friend Lucy dies. Before returning to England, Mina and Jonathan are married in the convent chapel where he has taken refuge. The newlyweds arrive back home to find Van Helsing and company dealing with Lucy's death in an incomprehensible manner — they are about to visit the Westenra family crypt to cut off her head and take out her heart. Within the darkness of the vault, the men discover Lucy's coffin empty and Lucy herself descending the stairs in her bridal gown, a small child clutched to her breast. To create an unearthly type of movement, the scene was shot in reverse as a floor effect. Actress Sadie Frost walked up the entire set of stairs backwards as a wire attached to her gown pulled the long train up and over each stair. When the film was run forward, it gave an 'undead' quality to her gait.

Lucy drops the child to the ground and approaches Holmwood seductively. When Van Helsing intervenes with a crucifix, she vomits blood all over him — another Greg Cannom effect. "We built a device very similar to what Dick Smith did in *The Exorcist*. Larry Odien rigged a little mechanical fan which we put in Sadie's mouth to really spray the blood as it came out. We made a whole bit piece that actually clamped and pulled her mouth back. I fixed it so that we could release it at times to give her face and mouth an occasional rest. Then we put a foam appliance over her face to conceal all the rigging — it worked really well."

Odien also built a full mechanical puppet of Frost for the sequence in which she literally loses her head. "It was beautiful," stated Cannom. "It looked exactly like her. People wouldn't get near it because it was so frightening. We were able to make her eyes open and close and move around — I even tracked the lower lid. We had rigged everything so the actors could stake Lucy and blood would shoot out of her heart. At the same moment, she would open her eyes and start to scream. Anthony



Having landed at a port near Hillingham, the vampire wastes no time in selecting Lucy Westenra (Sadie Frost) as his next bride-to-be. With telepathic commands, he beckons her to the family cemetery where he ravages her, body and soul.



Mina Murray (Winona Ryder), visiting her friend, comes upon the scene and stares in horror as the beast looks up at her. It is Dracula's first view of Mina — a dead ringer for his long-lost Elisabeta — and his senses are so heightened that he sees right through to her underlying circulatory system. The scene — involving cel animation painstakingly match-moved to live-action plate material — was accomplished at Available Light.

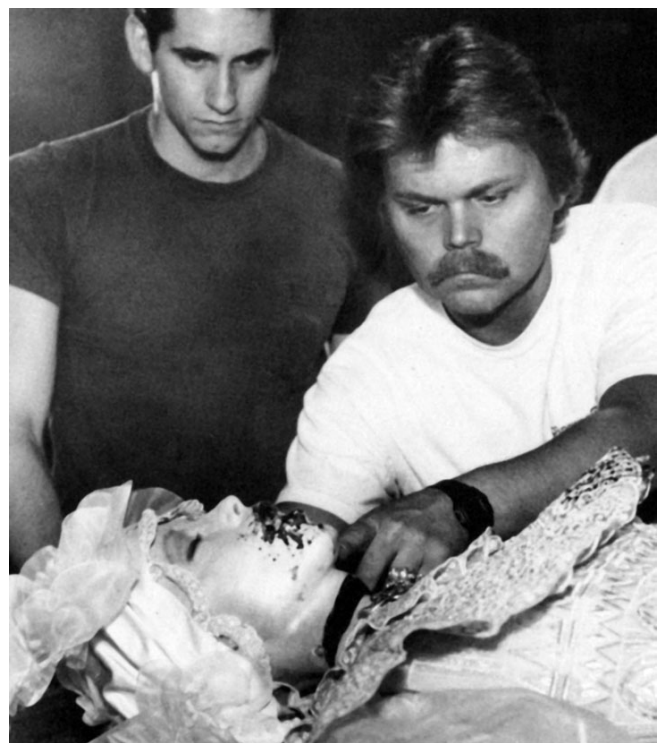
Hopkins was supposed to come over and hit her with a giant kukri knife and chop off her head while she was screaming. At first, the shot was designed so the knife would be pulled from the side across her neck, where a groove was made to guide the blade. But then the shot was changed so that the knife would come straight down on this tiny split in the neck, which was tough. It's almost impossible to hit a little crack only about an eighth of an inch. It had to be shot quite a few times because they kept missing the mark. Finally, on one take, it was actually perfect. The knife went right in and chopped off the head, and blood went flying everywhere. It was a great effect."

With Lucy finally resting in peace, the vampire killers turn to the prince of darkness himself. As they seek out and destroy *Dracula's* earthen sanctuaries, Mina is taken to Dr. Seward's quarters at the asylum for refuge. She is confronted by the unfortunate Renfield as she passes his cell. He senses *Dracula's* hold over her and warns Mina that the master is coming for her. Furious at this betrayal, *Dracula* comes for Renfield in the form of an absinthe-green mist. The green mist effect, originally slated to be featured in numerous scenes, was created as both an in-camera and optical effect.

Fantasy II generated the optical green mist effect. Dry ice and a mockup of Renfield's cell were required. "We did a long zoom down into Renfield's cell, to a closeup," explained Gene Warren. "During that time you start out seeing him down in the corner of the window. Green mist starts pouring in the window, flowing down the wall and forming below. We had to make the mist element in postproduction and we had to match-move it. Because it was such a long shot, it was a very tricky one to do. We built a mockup of *The Cell* and had the camera zoom and droop to mimic a crane move. The set itself was on a track, and it moved towards us as the camera dollied in. To match it, we projected a black-and-white copy of the shot from the outside through a mirror. Essentially this was a rotoscope technique; but since our cameras weren't made for rotoscoping, we had to put a little mirror in behind the film and project light back out through the lens. We built the set white so we could clearly see the image on the set and carefully track it every two frames. The computer filled in every other frame between and did a smooth in. Then we shot it in black-and-white and did a composite in optical. The mist was dry ice, which we pumped into this moving set and then gelled green in optical. Once we had the shot locked in with moves that matched, we laid black velvet over the third-scale shapes and set our lights on the right place. Then we polarized the lights and the camera in order to keep the black really black. We had to shoot it at a much lower frame rate — sixteen frames per second — to get the mist to act supernaturally. We designed the shot so we could do all sorts of little tricks with it, and make it look like the mist was throwing Renfield against the bars."



Unable to account for Lucy's sudden failing in health, her fiancé and former suitors call upon Professor Abraham Van Helsing (Anthony Hopkins) to provide a diagnosis. The professor detects the tell-tale signs of a vampire attack, but is unable to prevent Lucy's death. After her interment, he leads her small contingent of male mourners to the Westenra family crypt where they find an empty coffin and the now undead Lucy with an infant child she intends to feed upon.



To save her soul, they must drive a stake through her heart and sever her head. A life-size puppet replica of Sadie Frost was constructed for the scene by Cannom Creations. On the set sculptor Matt Falls and mechanics designer Larry Odien examine the figure prior to a critical shot.

For a later scene in which *Dracula* appears in Mina's bedchamber, the green mist was created as an in-camera effect using a fifty-fifty mirror and a black set duplicating the live-action set. This time the dry ice vapor was lit green with gels on the stage; and because it was heavier than air, it was simply allowed to sink and follow the contours of the room. The fifty-fifty mirror was used in combination with the lighting to fade the mist in and out of the scene.



Lucy's fiancé drives the stake as Van Helsing stands ready to decapitate her.

Dracula's appearance in Mina's bedchamber is marked as the vampire's shadow falls across a vase of flowers, causing them to wilt as if drained of life by the malevolent presence in the room. Fantasy II realized the effect, combining the standard technique of time-lapse photography with the newer advantages of motion control. "We used a speeded-up time-lapse effect," explained Warren. "We have a large oven that we use for baking foam rubber for makeup effects. Off of that oven we built the corner section of Mina's room where you see *Dracula*'s shadow fall. It was only about four-by-five feet — a little room. We would crank up the oven and heat the set, speeding up the time it would take for the flowers to wilt. It got up to something like five hundred degrees on the set and we were shooting it through glass. We set up the camera and camera shutter to the motion control and shot very long exposures — ten or twelve second exposures per frame. In a normal time-lapse, you just take a quick frame and then wait for a period and take another. But in that period of waiting, something can happen in real time — and that is what causes the jumps from frame to frame that you usually see in time-lapse photography. But by having a twelve-second exposure, anything that happened with our subject was recorded. Then the shutter closed for a quarter of a second, and opened for twelve seconds again. That way, we didn't miss anything that was going on. The motion control rig, during that quarter-of-a-second 'down' time, would move the camera to the next position. It ended up taking about an hour to record a four-second shot." To create the advancing shadow, a draped skeleton was mounted on a motion control rig. "We programmed the rig to move the shadow shape across the flowers and down."

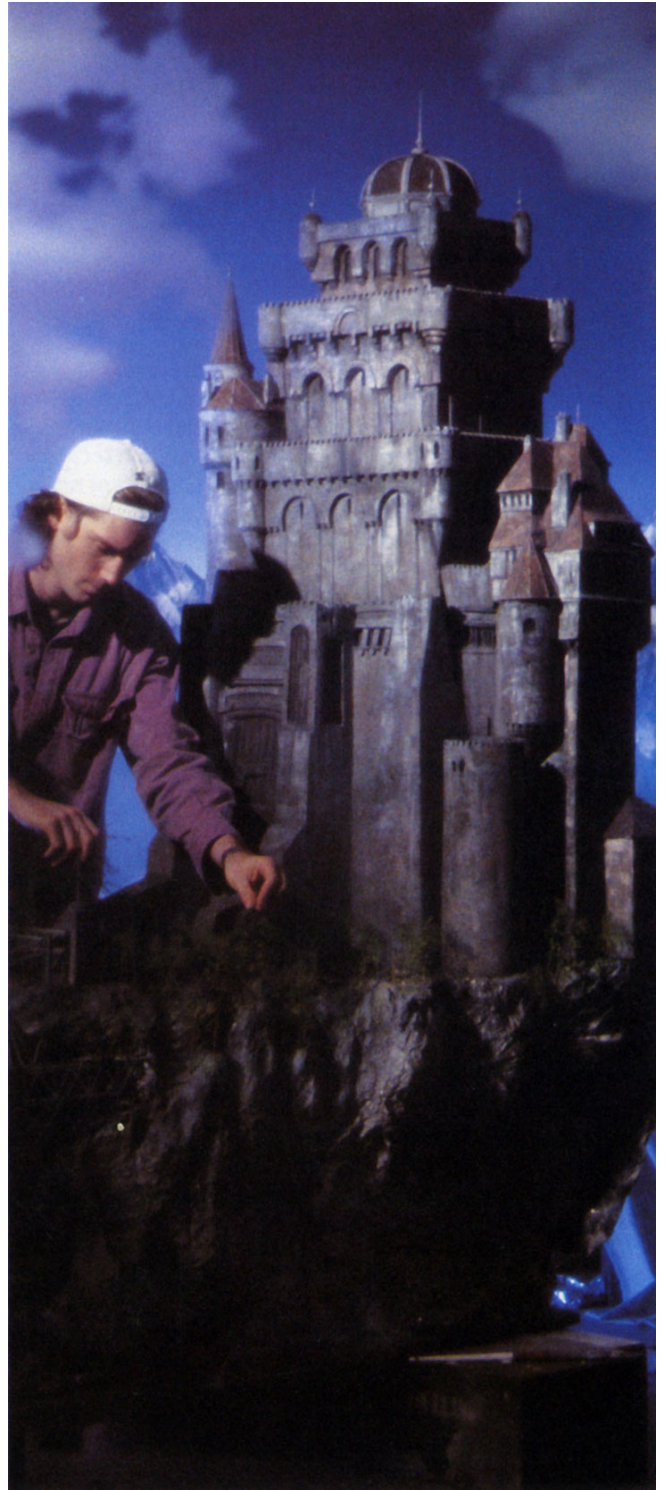
Dracula slides up from beneath Mina's sheets and begins kissing her passionately. She becomes his willing and eternal bride — the consummation of blood complete. The erotic and tender scene is interrupted by Van Helsing and his frantic companions who are surprised to find the window open and Mina apparently alone. The count has transformed into a batlike beast and retreated to the ceiling. Greg Cannom created the manifestation for Gary Oldman. "I wanted the bat creature to be the most horrifying of all the makeup effects. Unfortunately, I only had three weeks to build the suit because of the shooting schedule. I really could have used three months. One of my sculptors, Glenn Hanz, sculpted the body with help from Matt Falls; and I worked on the face and ears. I wanted it to look like there were holes in it, as if it had been worn out or eaten up. The body was sculpted and we made extended vampire bat arms with mechanics that moved the thumbs about a foot out from his hands. Stuart Artingstall tied all the hair. To me, the face was just a little too much; but at that point, Francis said he really wanted a more horrific look for the movie, so I thought,

‘What the hell?’ I had tried to be very subtle up to that point. We did some beautiful, blood-red contacts for that shot, too.”

Gary Oldman’s performance was instrumental in showing the suit off to its best advantage. “Gary did some amazing things within the confines of the various suits he wore. Usually, when you put an actor in a suit, they don’t know what they’re doing and you have to show them how to move around by really overacting in it. But when Gary got into these suits — both the wolf suit and the bat suit — he was incredible. He would do things with his stomach so you could really see his breathing. He would move his shoulders and elbows and really work the suit like I’ve never seen anybody work one. Even his voice changed — it was all spitting and slobbering. He was just brilliant.”

Dracula pounces on the men from the ceiling. Van Helsing confronts the vampire with a crucifix — which bursts into floor-effect-rigged flames — and then splashes holy water in his face. The bat creature retreats into a dark corner and quickly transforms into a mass of rats that scatter off in all directions. “We wanted to come up with something that would allow *Dracula* to escape in an unusual way,” said Roman Coppola. “The floor effects guys created a humanoid armature with arms that collapsed. Over that, they stretched a kind of netting with phony rats glued onto it to give our real rats some footing. The armature was positioned over a trap door in the floor so that it could just fall straight through. Our rat wranglers then placed about fifty live rats all over the armature. When we went to action on the shot, the trap door would open, the armature would drop through, the arms would break off and the rats would kind of tumble down and scurry away. We used a very quick dissolve to go between the bat creature and the rats — it was practically a match-cut — and Fantasy II tied it all together by rotoing red eyes for the bat creature that extended through the dissolve into the rat armature.”

Because the vampire slayers were successful in destroying every box of the Transylvanian soil necessary for his survival, *Dracula* embarks on a ship for his homeland. Van Helsing hypnotizes Mina, who reveals the prince’s course through her trance; then she and the men set out after him. A train and carriage chase through the wintry Carpathians ensues, with the younger men riding ahead of Van Helsing and Mina. Their approach towards *Dracula*’s castle is revealed through a series of matte shots starting at a Transylvania train station and ending at the castle gates. Matte World artist Bill Mather produced the four-by-five-foot painting representing the train station. Although the Orient Express served as a model for the miniature train built by Fantasy II, Matte World used Michael Pangrazio’s son’s toy train as the basis for their artwork. Both trains accurately represented the style of the period, and it was decided that more than one train would have been in existence at the time. The painting was later enhanced with an orange key light and blue fill — and more of Wade Childress’ talcum powder snow.



Transformed once again into a young man, Dracula presents himself to Mina and gradually wins her friendship and affection. Under the influence of a hallucinatory liqueur, Mina envisions Dracula's homeland and castle as it was in more idyllic times. Modelmakers at Matte World refurbished their ruined castle to accomplish the scene. Key grip Todd R. Smith positions miniature foliage in preparation for a shot.



Discovered in Mina's bedchamber by Van Helsing and company, Dracula transforms into a giant bat-creature — another elaborate suit and makeup provided by Cannom Creations.

Prior to beginning work on the matte shot, an eight-by-ten-inch trial painting was rendered to establish the look. Any alterations desired by the production could thus be made easily during a preproduction approval process, the intent being to work out the look of the shot in the early stages rather than having to make expensive and time-consuming alterations on the final rendering. The artist doing the matte painting was also responsible for the preproduction art for the shot. Similarly, only one artist worked on any given painting — although the style of the various paintings remained true to the overall production design. “I think this method works best,” commented Mather, “because then the artist can be familiar with all the different shapes and relationships in the scene. We get all of our reference as we’re doing the production painting. That way, we have it readily available when we go to do the main painting. The initial painting is the most fun for me because you start out just looking at a piece of black — a whole reality is waiting to be created there. That’s where there is the opportunity to do something creative. Once that painting is approved, then the big painting is just a matter of copying it.” Mather was also responsible for rendering the subsequent close view of *Dracula*’s gypsy-driven carriage on the Borgo Road.

Snow elements produced by VCE contributed to the ambience of the sequence. “We sat down with Roman and Alison,” Kevin O’Neill recalled, “and discussed the whole sequence, what kind of snowstorm they wanted to create. They wanted a unique situation which, weatherwise, is almost impossible to find — a sunset with a snowstorm. We picked out a few key scenes to begin with and laid snow over them. Throughout that sequence there are about thirty separate cuts with our snow elements laid over them. We had photographed the snow elements on our stage — it was a very fine mix of fiberfill and other materials, shot against black. We shot snow falling; snow blowing from the right; snow blowing from the left; snow blowing toward camera; light snow; heavy snow. Then Brian Griffin in line-up picked those takes that would work best for each scene. In some cases, in order to match the snow that was in the original plate — snow they had shot on the live-action set — we would take our snow elements off to the motion control printer and streak them just slightly to give them a little blur. The trick with the sequence was that the camera was moving all the time, so we couldn’t just overlay snow arbitrarily. We had to be very careful as to which elements of film we used.”



The professor’s crucifix bursts into flame as the bat-creature defies those who have dared interfere with him.



The exterior of the insane asylum near Carfax Abbey — where the hopelessly mad Renfield is confined — was constructed as a miniature at Fantasy II.

A latent image Matte World painting establishes the arrival of Mina and Van Helsing outside the castle where they make camp for the night. Huddled close to a fire, they hear echoes of the vampire brides' laughter hauntingly near. Suddenly, Mina is transformed into a seductress and approaches the professor persuasively. Van Helsing counters with a holy communion wafer pulled quickly from his pocket. He presses it to her forehead leaving a brand of burnt flesh. To create the effect, Greg Cannom made a tiny vacuformed wafer with a tube coming out for smoke where the thumb would be. Realizing that just a part of the wafer would actually be pressed to Winona Ryder's head if it were being held in someone's hand, Cannom made only a crescent-shaped portion of the wafer out of reddish-tinted elvocite plastic. That portion was then pressed to the inside of a dummy wafer. Clear adhesive was applied to both the plastic wafer and Ryder's forehead, causing the appliance to stick on contact. The effect was accomplished in-camera as one shot.

Van Helsing's mission for the night is not yet over, however, and at sunrise he emerges from the castle bearing the three freshly decapitated heads of the brides which he hurls into the chasm below. The live-action crew shot Anthony Hopkins with heads in hand, while 4-Ward Productions did his point of view looking down as the heads fall into the chasm. The Skotaks began by shooting a still photograph of their chasm miniature for use as a background plate. "The detail in the miniature chasm did not hold up sufficiently to use the plate as it was," Robert Skotak explained, "so Rick Rische and I did a matte painting from the photograph. We actually made a three-by-four-foot photographic enlargements that we then painted over. Next we double-exposed, through a beam-splitter, some traveling dry ice that flowed through a channel that lined up with the river in the photo and matte paintings. When you looked through the camera, you saw the gorge as a matte painting, with the water movement in the river done in-camera as a separate element. Then we shot the heads of the brides against a bluescreen. They were mounted on pylons with motors to rotate them so they spun and turned. A fan blew their hair around. Dave Hewitt at Hollywood Optical handled it as a straight optical composite. There had been talk of trying to do this as an in-camera effect, but that would have been nearly impossible. And, after all, they did have bluescreen in the Forties."

Several Matte World paintings established Castle Dracula on its promontory at sunset; and one of the



At the Cannom Creations shop, crew members Todd Tucker, Steve Prouty and Larry Odien groom the completed bat-creature — which incorporated appliance makeup, a full suit and mechanical hands — in preparation for its employment on stage. Though pleased with their fabrication work, makeup effects team members generally credited Gary Oldman's performance inside the suit as a prime factor in its overall effectiveness.



In the makeup trailer at the studio, Oldman sits patiently while undergoing a multi-hour makeup application by Stuart Artingstall — responsible for hair work on the suits

final scenes in the film included a large matte painting of the castle at night. The point of view looks downward to the courtyard below,

— Greg Cannom and special makeup application artist Matthew W. Mungle.

demonstrating once again a hybrid blend of two techniques — miniatures and mattes. The miniature was photographed by Wade Childress with a scrim employed to add a haze effect to the shot. The camera angled downward towards the model of the castle, as well as the courtyard and the surrounding area. Michael Pangrazio produced a separate matte painting to fill out the rest of the scene. The miniature, combined with the painting, created a much larger vista. The additional rear-projected element of a campfire, with Van Helsing and Mina walking around it, gave the castle scale and made it look even more imposing. Because of the distance, the actual actors were not needed for the plate, so camera assistant Rich McKay doubled for Van Helsing, while Childress' daughter Teal stood in for Mina.

“We chose to do a combination of miniatures and matte paintings,” explained Pangrazio, “because that way we had the ability to change our setup quickly and do different versions if we wanted to. Once the miniature is perfected to the point where we can film it, then we can create different versions of the shot by changing lighting or adding clouds. In this show, we needed a lot of flexibility — we were always searching for the best end result. By using a combination of elements, we weren't as pinned down as we would have been if we'd only done a production painting that was exactly accurate to the storyboard. This technique is much more flexible than simply doing a matte painting, because a matte painting takes too long to change if it's not exactly right. If you're painting a sky, for example, and the client wants a change here or there, it's much more difficult to go back and change the painting, because whatever you change affects the lighting everywhere else. If you took out a cloud, then you'd have more light on the castle and you'd have to repaint it. This way we can work with the client to find the right look before we finalize it.”

Matte World utilizes its overlap of artistic and technical talent to creative advantage. “There's really no line between departments,” commented Craig Barron. “It's not like the miniature crew only photographs miniatures and the matte painters only do matte paintings. Everyone works on everything together; so the techniques that matte artists use to make their paintings look good are also the techniques we use to make the miniatures look good. On a miniature shot, for example, we often have a matte artist work with us to help us make it look realistic. A matte artist understands how to create a complete reality using tubes of paint, so his aesthetics and decision-making processes are superb. At times, it is a gray area as to whether something is a matte painting or a miniature, because a matte painter will paint on the miniature using his matte painting techniques. It is a collaborative effort between technical and artistic people coming together to create an image. Both our strengths are truly realized that way.”

Climaxing the film is the ultimate confrontation between the forces of good and evil. Harker and company have joined Van Helsing and Mina outside the castle walls, and the men square off against their powerful foe and his gypsy allies. Harker deals a gash to *Dracula's* throat and Quincey drives a Bowie knife into his chest — mortal wounds, even for a vampire. Mina joins her prince, cradling him lovingly on the same chapel steps where the lifeless Elisabeta once lay. He asks her for peace and she falls on him, her weight driving the knife clear through his heart. The tranquility

finally afforded the tortured soul of the prince is clearly illustrated as, in death, the again-aged *Dracula* transforms into the young Prince Vlad.

The transformation sequence was produced at VCE under the supervision of Kevin O'Neill.

"Originally, we were given five or six different forms that *Dracula* had appeared as in the film — the wolf-beast, the old *Dracula*, the young, bearded *Dracula*, et cetera — and the idea was that he would transform through each of these incarnations in the sequence. We did tests optically, taking each one of those plates and pulling contrast mattes off of them. When they were composited together, the highlights of the following image would reveal out of the highlights of the preceding image. We found that the plate photography had a lot of registration problems — the heads were not exactly where they ought to be and the blood in the background had dried from day one to day two of shooting. So there were differences that became a real problem. They then decided to cut the sequence down to just a transformation from the old *Dracula* to the young *Dracula*, which made it much more elegant."

In contrast to the traditional approach taken in executing virtually all of the other effects in the film, the VCE team opted to realize the transformation by combining optical techniques with a digital morph. "We had recently acquired an updated version of traditional morph software," O'Neill stated, "so Pete Kuran decided to test it and see if we could create an elegant and slow transformation using this morph package. Pete began by plotting points in the computer and soon found that, because the two faces in the plates were so well aligned, there were areas that would work very well together. Pete designed the animation; and after several attempts, came up with a smooth transformation that didn't jump out at you."

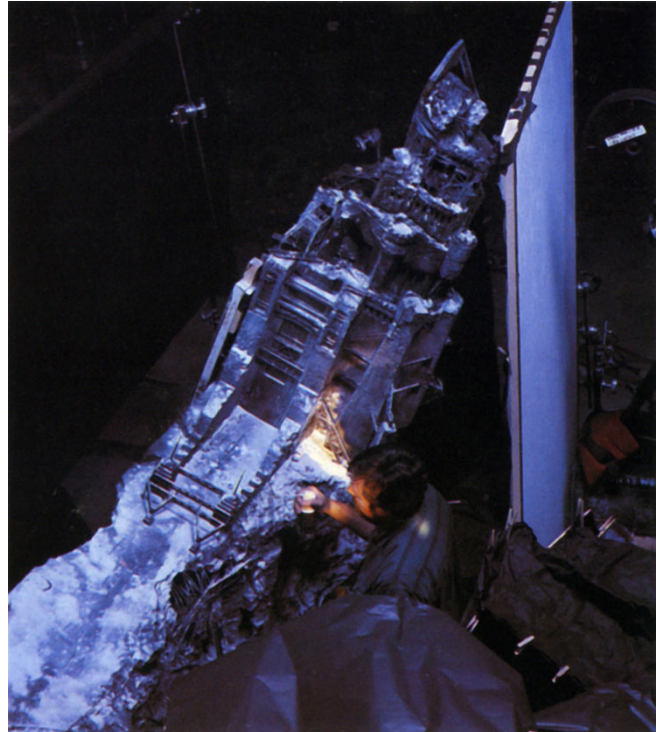
Digital technology was also employed to create a soft ray of light — supposedly representing the source of *Dracula*'s redemption — falling on the transforming prince's face. "After seeing the first morph test, Francis agreed we were going in the right direction," remarked O'Neill, "but he wanted to see a representation of what was causing this change — the light. They had had that light coming off the cross in the previous cut, a subtle representation of God or heaven. So we pulled a matte of the contrast area in the plate photography of the young *Dracula* and brought that through a Photoshop process called 'blurring.' We then took that blur and stretched it to create the ray of light that you see coming down on his face. We didn't want just an animated beam of light — we wanted something that would be interactive with Gary Oldman's subtle movements. When we stretched the blur and ran it in an animation cycle, it created this undulating shaft of light. After we had created those two elements of the morph and the blurred ray of light, we decided that in order to keep with the style of the rest of the picture — which was to do everything with traditional technologies — we would take those separate elements and composite them together on an optical printer."

To afford her tortured prince eternal peace, Mina swiftly and bravely severs his head — an act already established in the film as a requirement for reclaiming a vampire's lost soul. Though presented as an ultimate act of love, Coppola wanted to offset the grisly scene with a reconciliatory, ascending moment with which to end his movie. In his typically collaborative creative style, the director conferred with Gary Gutierrez of Colossal Pictures. "Francis was talking to me about the problems he was having with the ending," Gutierrez recalled. "He was thinking that he would like to communicate the catharsis of the film in some way; and we talked about a lot of different ideas, most of which he didn't like because he thought they were too corny. He thought that for Mina to

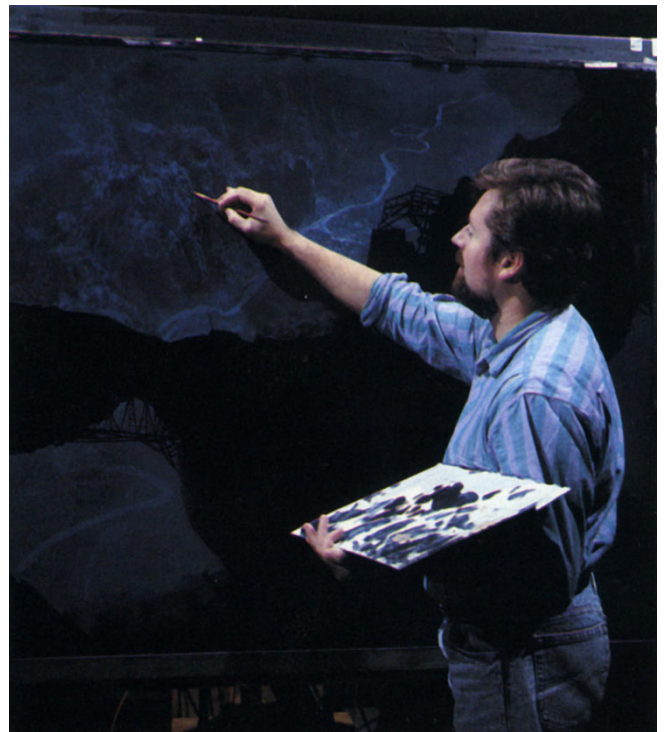
chop off the head on behalf of *Dracula*, as an act of love, would be a wonderfully ironic kind of moment. But he wanted to come out of that with something that made us know that that was the right thing for Mina to do.”



Dracula takes flight from England and hastens home to Transylvania with Van Helsing and Lucy’s friends — now Mina’s protectors — in hot pursuit Arriving at the castle after dark, and in advance of the others, the professor and Mina make camp nearby. For a bird’s-eye view of the locale — courtesy of Matte World — a live-action plate was photographed using stand-ins for Anthony Hopkins and Winona Ryder.



Also featured in the shot was the miniature castle — shot from a high angle — and a background painting. Matte artist supervisor Michael Pangrazio at work on the area of the model where the campfire will be inserted.



Pangrazio was also responsible for the background painting of the surrounding gorge.

Gutierrez suggested a shot of Mina looking upward — as if appealing to God for guidance — revealing a painting of Vlad and Elisabeta ascending to heaven in the dome of the chapel. Coppola was intrigued with the idea, and assigned Gutierrez the task of producing the transcendent moment. “What I needed,” Gutierrez commented, “was a really great painter who could work in a style that would tell the story and feel authentic. If it looked like the director’s illustration of the ending of the story, as opposed to something authentic that was there on the ceiling all along, then the ending wouldn’t have the same impact. Mike Pangrazio at Matte World introduced me to Bill Mather, a fine painter who was also very patient and persistent in finding the look we were after.

“I began by researching the art of the period — both Eastern and Western art — and I came to realize that we had a very difficult aesthetic problem to solve. We wanted the painting to look Eastern because it certainly would have looked false if it had looked like something from the Italian Renaissance. But the painting style of the East in that period was extremely formal — and to our Western eyes, somewhat crude. There was also very little individualism in the faces. So we had to create something that looked enough like the actors that the audience recognized them, yet it had to be an Eastern abstraction of their faces. Another problem was that in Eastern art, people were rarely depicted flying in the sky like they were in the Italian Renaissance or the baroque period. And there wasn’t the understanding of forced perspective that there was in other parts of the world at the time. I was concerned that that crudeness would be hard to understand for anyone not familiar with that style of art. So we had to find a middle ground — something that was an elegant and beautiful image to close the movie, yet still conveyed something of the Eastern style. One of the Coppola rules is, ‘If there is a choice between a match and what is beautiful, go for what is beautiful.’ That sort of answered the question about the painting — when it was a choice between matching Eastern art exactly or going for a more beautiful painting, that old rule led me to go for what was more beautiful.”

Gutierrez and Mather developed the look of the painting over a three-week period, taking advantage of the speed and ease of computer technology. “We worked on the computer a lot,” Gutierrez said. “Bill would do painted sketches, then scan them into the computer so that he could manipulate the colors and images. For example, at one point, it looked as if Elisabeta’s face was getting too fat, so he put it in the computer where he was able to correct it by just stretching the image.” Although developed in the computer, the final painting was rendered by traditional means. To get a sense of



The completed matte shot.



A full painting by matte artist Bill Mather provided another environment into which was added a live-action plate of Dracula’s gypsy allies — hauling the vampire inside his soil-filled box — racing toward the castle gates. Talcum powder snow was incorporated into the shot.

what the artwork would look like in the dome, Mather painted a version inside a salad bowl. Completed renderings were photographed, made into slides and projected onto the dome miniature to aid Mather in the final painting process.



The determined pursuers overtake the gypsy caravan just inside the castle courtyard. Dracula, aging once again, rises from sleep to confront his assailants, who nonetheless manage to slash his throat and drive a knife into his chest.



Dracula stumbles into the castle chapel and collapses near the altar. Realizing that the only way to liberate her lover's soul is to destroy his vampire essence, Mina drives the protruding knife deep into Dracula's heart.

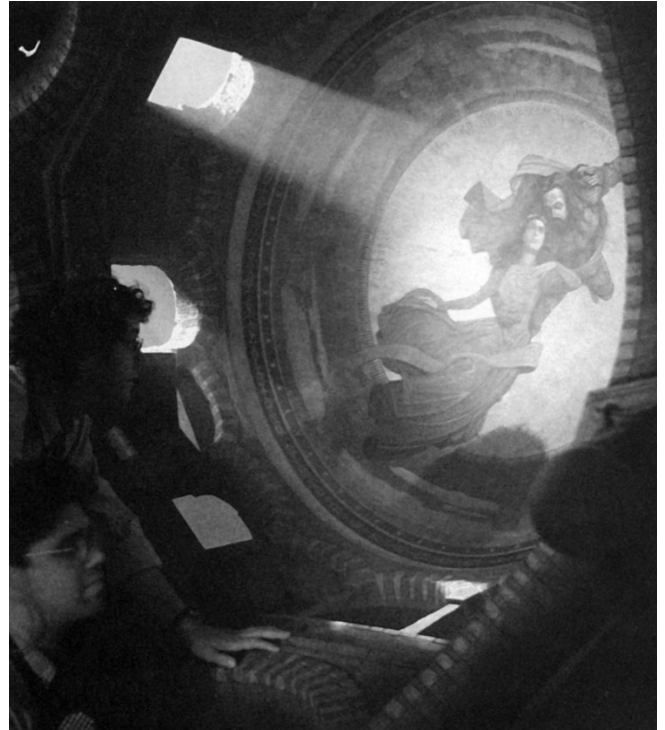


Bill Mather utilized computer graphics to develop a fresco of Vlad and Elisabeta ascending into heaven. The final concept was rendered in paint on a miniature of the domed ceiling of the chapel.

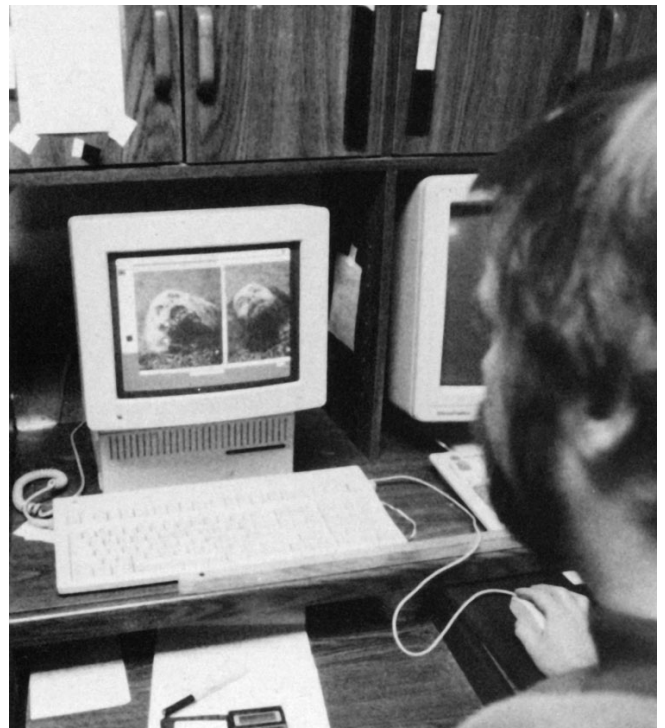
Chris Walas Incorporated was charged with building the miniature dome and surrounding column architecture for the last shot. A five-foot-diameter plexiglass dome was made to specifications by a company that specializes in making skylights — that piece was then sent to Matte World where it was prepared for Bill Mather's painting. "Our model was based on a dome that Gary Gutierrez had found in his research," Mark Walas explained. "It was about seven feet tall, built in a slight forced perspective to make it look bigger than it was. We sculpted it in sections and then ran multiples. We put those sections together and then textured them and blended everything. The basic columns were made of castmaster plastic that was backed by rigid foam; then we used a variety of materials to add texture. We carved back into it to accentuate the depth of some of the stones."

The dome and architectural model was assembled on the Colossal stage where it was photographed. "It was shot sideways," said Gutierrez, "with the camera on a dolly. We used different lighting setups to get different looks. For a few of our takes we used candlelight. We had about four hundred candles which were attached to aluminum reflectors and mounted onto a grip stand. We had four stands with a hundred candles each, and those became the fill light. It had a soft warm quality we could not have obtained any other way. When we looked at all the takes, the one with the real candlelight really brought the shot to life; and that was the take that was used in the film."

As conveyed through Francis Ford Coppola's stylistic vision, Bram Stoker's *Dracula* lies closer to the dark heart of Stoker's original story than any other effort thus far — a dedicated telling of a classic tale, yet one that bears the unmistakable stamp of its singular director. The film is also, in a way, dedicated to cinema itself. There is the blend of old techniques with new, of creative inspiration with classic textbook filmmaking, of the unrivaled quality of the human touch with nuts-and-bolts technology — a



The ceiling miniature was photographed at Colossal Pictures and incorporated into the climactic death sequence. Visual effects supervisor Gary Gutierrez and effects cinematographer Don Smith prepare for the shot.



The evil within him destroyed, Dracula transforms in death from aged vampire to youthful prince. Peter Kuran of Visual Concept Engineering employed a morph program to achieve the effect.

whole that is certainly greater than the sum of its parts. Like *Dracula*, Coppola understands how to conjure all the elements and use them at his will. The darkness within is, for the moment, reconciled with the light.

Bram Stoker's Dracula photographs © copyright 1992 by Columbia Pictures Industries, Inc. All rights reserved. Production unit still photography by Ralph Nelson. Special photography by Steve Schapiro and Fabian. Additional photographs and filmclips courtesy of Matte World, Visual Concept Engineering, 4-Ward Productions, Colossal Pictures, Fantasy II, Cannom Creations and Available Light. Special thanks to Kathy Orloff, Helen LaVarre and Boyd Peterson.

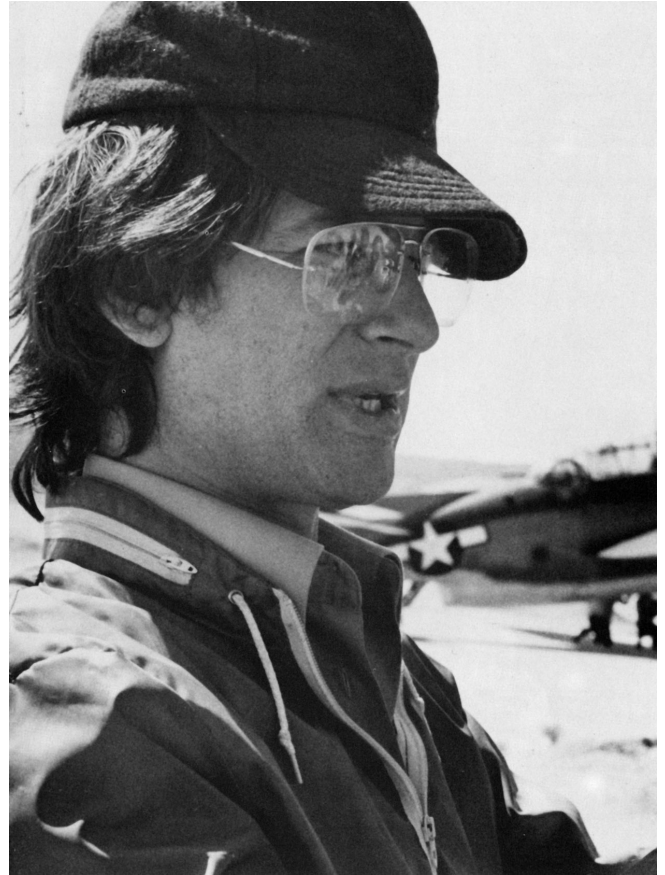
A CLOSE ENCOUNTER WITH STEVEN SPIELBERG

image

interview by
Don Shay

Fifteen years have elapsed since *Star Wars* and *Close Encounters of the Third Kind* first electrified movie audiences and, in the process, triggered a renaissance in motion picture visual effects. Steven Spielberg, still in his twenties at the time, had made only two feature films prior to *Close Encounters* — but one of them had had the good fortune to be *Jaws*, the reigning boxoffice champion of its day. The phenomenon of *Jaws* would provide the essential springboard for an epic dream project about extraterrestrial visitation that the young director had been nurturing ever since childhood.

A couple of years ago, I was invited by The Voyager Company to participate in the production of a video supplement to accompany their Criterion Collection widescreen laserdisc release of *Close Encounters of the Third Kind*, the first home video offering to include the original 1977 film version in tandem with the Special Edition material incorporated into its revised 1980 reissue. Among the many principals interviewed on videotape for the expansive supplement were effects supervisor Douglas Trumbull, composer John Williams and, of course, Steven Spielberg. Though much of the following interview can be viewed on the laserdisc, it has never before appeared in print. Editing of the text has been minimal, limited only to clarifying or correcting the minor inaccuracies and grammatical meanderings of verbal exchange. My thanks to Morgan Holly of The Voyager Company for authorizing the publication of these Steven Spielberg reflections on the occasion of *Close Encounters*' fifteenth anniversary.



On location for the opening scene of Close Encounters of the Third Kind — in which a flight of military aircraft, missing since World War II, is discovered in perfect running condition in a Mexican desert sandstorm — Steven Spielberg reviews his cast and camera choreography prior to a shot. Working from his own script for this now-classic 1977 Columbia release, the director broke new ground in examining the phenomenon of unidentified flying objects and extraterrestrial visitation in a cinematic context devoid of hysteria and xenophobia. In the process, new advances were also made in the evolution of visual effects as orchestrated by effects supervisor Douglas Trumbull and his Future General Corporation.

After the success of *Jaws*, you were in the position of being able to choose just about anything you wanted for your next film. The subject you selected was unidentified flying objects, and the film you made about it was *Close Encounters of the Third Kind*. What was it that intrigued you about this subject and why was it that you selected it for your follow-up to what, at that time, was the most successful film ever made?

Well, *Jaws* was going to be the follow-up movie to *Close Encounters*, actually. *Close Encounters* got started in my mind years before I even read the novel to *Jaws*. But as things turned out, *Jaws* turned into my second feature, after *The Sugarland Express*. *Close Encounters* was a rather esoteric subject at the time, and Hollywood studios didn't quite know what to think about benign, benevolent aliens in a world where there were no villains. So that concept met with some resistance in the world of Hollywood in the Seventies — but the concept of a shark eating up everybody who went swimming in the Atlantic Ocean met with no resistance.

I think *Close Encounters* really had its origins when I was a child and we were living in New Jersey. My father woke me up in the middle of the night when I was six years old — or maybe five years old — and he took me to see a meteor shower, which I had never seen before. It was kind of a scary thing for a small kid to be put into a car at 3 o'clock in the morning and driven somewhere where there were a lot of other strange people on picnic blankets on a little green knoll. And we looked up into the sky and there were meteors. Every thirty seconds, every forty-five seconds, there was a spectacular meteor that crossed the sky. And that's what first got me interested in the cosmos, in the possibility of life off the planet. My imagination just kicked in from there and I became an amateur astronomer. My dad built me a home-made reflecting telescope, a two-inch reflecting telescope out of an old cardboard carpet roll and some glass that he ground. He was an electrical engineer and really good with his hands. And I got very much into looking at the moons of Jupiter and watching Mars when it was the closest to the earth. And I began to think about what was out there aside from what Hollywood had put out there — which was a horror scenario every time they made a picture about extraterrestrial visitation. I never believed that. I began reading about UFO sightings; and it became a real sort of life interest in that sense, next to movies.

Your recollection of being piled into the car and driven out in the middle of the night to see meteor showers is echoed, almost beat for beat in the movie.

Right. Right. It was all very personal. I mean, I still think that *Close Encounters* is one of the most personal films I've made, because actually its wellspring was my own experience growing up as a child in New Jersey and then later Phoenix, Arizona. So it was close to me; I wanted to make it very much. It's one of the few things I've originally written. *E.T.* was my story; but *Close Encounters* was my story and my screenplay. And it was the first time that had happened since my amateur days of making eight-millimeter films, where I did just about everything.

It's hard to believe in this day and age, but *Close Encounters* was conceived at a time when the thought of doing a big-budget science fiction film must have been appalling to the studios. With the exception of 2001, and perhaps a couple of others, the decade prior to *Close Encounters* and *Star Wars* was virtually devoid of anything resembling a successful science fiction film. Did you, even after *Jaws*, meet much resistance to the idea of doing one?

Well, there was resistance. No one would make *Close Encounters* until *Jaws* was successful. My simply directing another Hollywood movie didn't really unlock the vaults for *Close Encounters*; but after *Jaws* was a success, Columbia stepped forward and pretty much said: "Now we think it's a great idea to finance *Close*

Encounters.” But they were taking a big risk, because a movie without villains — science speculation, or science fantasy, or however you like to perceive it — hadn’t been done before. My inspirations for *Close Encounters* were George Pal and Stanley Kubrick. And the same held true for George Lucas with his *Star Wars* trilogy. George Pal made the first scientifically realistic movie in the genre of science fiction, called *Destination Moon* — and then he made *When Worlds Collide*. He used the basis of reality to allow us to experience something that seemed very real, but we knew was only a figment of his imagination. Yet we bought into it. And Kubrick, of course, went ultrascientific with *2001*. Those two films, I think, gave me courage and inspiration, and gave the studio some sort of basis to say, “Well, our market research says there were a couple of films, years ago, that did pretty well at the boxoffice that dealt with science fiction as a reality, not as a fantasy.” So that really helped a good measure.

The idea of benevolent aliens is fairly commonplace today as a result of *Close Encounters* and *E.T.* and dozens of other knock-off movies; but at that time, with the exception of maybe *The Day the Earth Stood Still*, which even then had kind of an edge to it, an implied threat, I think that this was the first time that that had ever been done. What was the basis of your belief that if their were extraterrestrials out there that they would come in peace?

Because it’s too far to travel through space and time to drop bombs on somebody’s head. You know, anyone who’s going to journey a million light years from their home is not going to come all that way to eradicate a species and then start a kind of farming cult. I just never believed that was the case. I always believed that anyone smart enough to go forward into the universe, by using whatever principles of science, to build their vehicles, to find some way to jump light and time and get here, was going to come with at least, if not peaceful intentions, a great deal of curiosity. And curiosity, to me, isn’t aggression; it’s not confrontation. Curiosity is quietly observing, perhaps, the twentieth century at work, for good or for evil. I always felt that the whole phenomenon of UFOs was kind of a passive phenomenon, you know. They don’t land on Capitol Hill the way they do in *The Day the Earth Stood Still*, with a fig leaf, or as they did in a couple of *Twilight Zone* television shows — one of which I remember was called “To Serve Man.” It was just beyond my own support system — my mom, my dad, what they taught me to believe. My dad was a big science fiction reader; and even though I didn’t read science fiction as a child myself, my dad always talked about the universe as a place of wonder, as a source of wonder, and that’s how I saw the universe, as well. It’s too pretty to look at all those stars and imagine Darth Vader really up there dropping bombs.

When Stanley Kubrick did *2001*, he had planned from the beginning to show his extraterrestrials, whatever they turned out to be. And he had a great many people devoting a lot of energy and effort into trying to come up with suitable concepts. Ultimately, he gave up and decided not to show the extraterrestrials, to leave that whole part of the film ambiguous.

True.

You went into *Close Encounters* with a similar intent to show your extraterrestrials. And you had a lot of trouble realizing them also — but you persevered.

Well, you know, I respected Kubrick’s dilemma. His movie was so scientifically accurate in his prognosis of space travel — to and from the moon and then perhaps the Jupiter voyage someday — that when it came time to show an alien, I think he was smart to leave it to our imaginations. *Close Encounters* is much less of a *National Geographic*, futurist look at space and travel. Instead, it has its roots in melodrama. So that allowed me the license, the free rein to not let the audience feel any disappointment when they got to the end, but

allowed me the courage to let them see the E.T.'s. And, you know, the universal report about E.T.'s all over the world is not that they're nineteen feet tall and they're all hairy and they step on houses; but the universal, with some exceptions, sort of police composite of extraterrestrials is that they are very short, with spindly legs and arms and usually oversized heads. And that's pretty much, in simplicity, what I tried to do with *Close Encounters*, was to bring creatures down that we might have just heard about.

You tried a number of different approaches, from children in suits to marionettes on strings to elaborate cable-actuated puppets. Many of them ended up in the film.

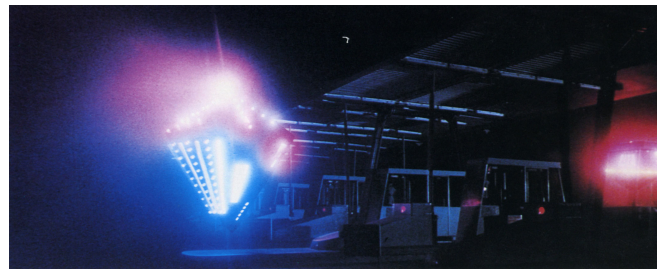
I tried everything. I mean, the first thing I did with *Close Encounters*, once we knew we had a production and a start date to make the movie, and everybody was being hired and Columbia was spending money — or allowing us to spend their money — the first thing I did was to go and search for the perfect E.T. I had this strange idea that they shouldn't be people in costumes — that had been done from the dawn of time in Hollywood. So what I did was I had a chimpanzee brought to the set one day and we put him in an E.T. suit. We further complicated the test by putting roller skates on him, because I didn't want the chimpanzee to walk simianlike; I wanted him to kind of glide smoothly down a ramp. You can imagine the result. We had a chimpanzee with a large rubber latex head and a little kind of flimsy ballerina costume and large roller skates disguised with kind of a dust ruffle so you couldn't see the actual wheels. We put the chimpanzee on a ramp; and the first thing that happened, of course, was he fell and slid down. The chimpanzee tried it again, but he couldn't quite get his balance on the eight pairs of wheels and ball bearings, and kept making these rather remarkable Charlie Chaplin pratfalls. He was all over the place and he was laughing actually — he had a great time doing this — but I sort of saw the picture of the whole movie flashing before my eyes, and I said: "Well, I guess animals in costume are out. Can't do that." At one point, the chimpanzee did pull off his rubber head and throw it at the crew. That was his way of telling me, "Find another way."

A hundred chimpanzees rolling out of an extraterrestrial mothership presents a pretty funny image.

Yeah. I couldn't quite imagine a hundred chimpanzees in leotards and latex heads on roller skates coming out of the ship, based on what one wouldn't do. So the next step, for me, was to see if I could get little children in costumes. That worked a lot better. The costumes were designed by the Burmans, and they were good — good faces, good bodysuits. We changed the childlike anatomy a bit by padding the gluteus maximus somewhat, just to give a different shape to the profile of the body. But I knew that these were going to be little girls in



From the porch of her rural Indiana home, single mother Jillian Guiler (Melinda Dillon) watches an unusual lightshow in the night skies. Live-action for the scene was combined with a Matthew Yuricich horizon painting and simulated clouds illuminated with fiber optic probes. Billowing cloud formations — featured prominently in the film — were achieved by the now-standard means of injecting white paint into tanks of water, an idea that came to Douglas Trumbull when he noted the dispersal of cream in a cup of coffee.



A pair of UFOs trigger alarms as they pass through freeway tollbooth stations without paying. A Spielberg concept — embraced by Trumbull — was to show the nonterrestrial vehicles as essentially bright lights without discernible structure.

costumes, and pretty much figured that if I committed to that approach, they would have to be backlit and almost totally silhouetted. So what I did with (director of photography) Vilmos Zsigmond was encourage him to silhouette every one of the aliens except for the Carlo Rambaldi alien. That one we affectionately referred to as Puck. For him, I had in mind something like a cross between a fetus and a Dickens character. Carlo and I went to work, just on paper, conceiving very innocent faces. Then Carlo came back after a couple of times with a really good design; and that became Puck, who was completely mechanical.

That technology was pretty much in its infancy at the time — the idea of using a fully mechanical creature controlled by cables. Were you confident that it was going to work, or were you just taking a shot at it?

I didn't know if it was going to work or not. I pretty much had never experienced a creature that was run by fifteen members of a crew with levers and wires pulling little tin scoops that would press the latex inside the face to create a squint or a blink of an eye or a smile. And I'm not quite sure if that had ever been done before, to the extent of the mechanical detailing that Rambaldi and his group had accomplished. So for me, it was a first. It was also the precedent for *E.T.: The Extra-Terrestrial*, which was my next movie in that genre a couple years later.

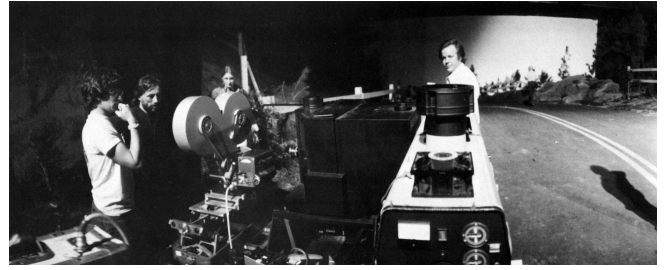
Reportedly, you and Richard Dreyfuss kicked around ideas for *Close Encounters* while you were shooting *Jaws* on location at Martha's Vineyard. Did you have him in mind for the Roy Neary part from the very beginning?

Well, I told Richard the story of *Close Encounters* because I had it in my head for so many years before *Jaws*. I guess we were tired of talking about sharks and the ocean and girls and everything else that we would do to sort of pass the time. Even though Martha's Vineyard was a beautiful spot for filmmaking, we had a pretty impossible shoot on the water and, to us, it felt kind of like Devil's Island. So one night I told Richard the story of *Close Encounters*. He raved about the idea and said: "I want to play Roy Neary. That's me. I want to play that character." And, as has been the case with Richard and me, I said, "Okay, great." So I kind of committed to him at that time, early in 1974.

Richard is kind of like my alter ego, anyway. I tend to like to work with Richard when I place myself in the movies. Richard is a real nice kind of representation of who I think I am sometimes, as objectively as anybody can be about one's self. Truffaut had an alter ego; Kurasawa has had an alter ego. A lot of directors have had alter egos in their movies. And Richard is actually the personality I've always aspired to be, but never could be; so I've hitched a lot of my dreams to his.

How about your other principal characters?

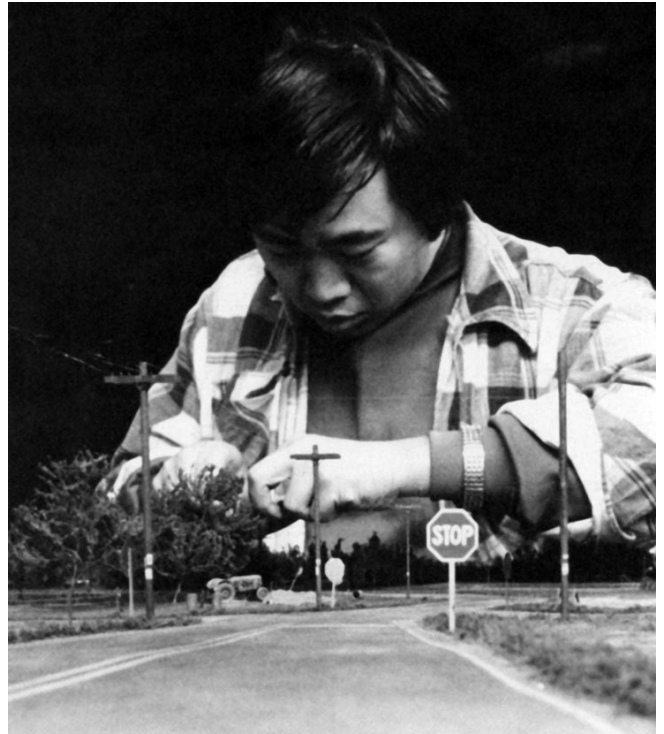
Teri Garr I saw in a commercial for coffee, and I said, "A homemaker, makes great coffee." I was young, naive and chauvinistic, and I thought she'd be great in this movie. Also, she had a good sense of comedy — which I thought she needed. She needed to have a sense of humor a little bit about her character, because she was the bad guy in the movie, in a sense. Not that she is really a bad guy — Ronnie is just somebody who is trying to preserve and save her family from the kind of insanity that she assumes her husband is experiencing. She doesn't want her family to be tainted by this, and she essentially takes the family away from Richard's character to let him "pursue his nightmares," as she calls it.



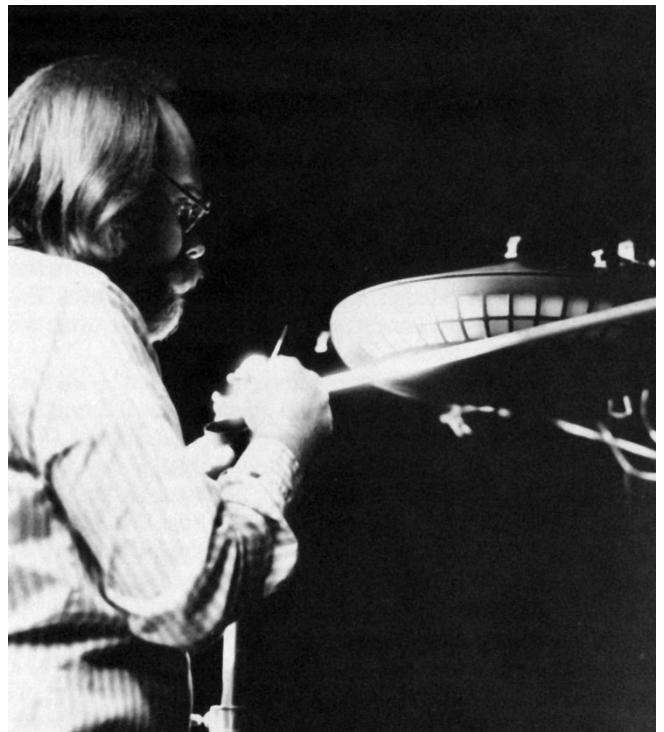
A disused dirigible hangar became the principal shooting stage for the film. For the Crescendo Summit locale, where spectators gather nightly to observe low-flying UFOs, only a small section of country road was constructed. The remainder of the setting was front-projected onto a giant Scotchlite screen erected in the background. Steven Spielberg, director of photography Vilmos Zsigmond and Douglas Trumbull examine the front projection unit engineered specifically for the project.



At the Future General effects facility, Trumbull and Spielberg discuss placement of animated stars into one of the shots.



Chief modelmaker Greg Jein at work on one of many landscape miniatures constructed for the film.



Special consultant Peter Anderson applies touch-up paint to one of the saucer miniatures.

If the situation were real, I think a lot of us would like to think of ourselves as being like the Richard Dreyfuss character; but in reality, most of us would probably be more like the Teri Garr character.

Yeah, Teri Garr represents the practical side of family and tradition and American family life; and I thought she did a really good job.

How about Francois Truffaut?

That's sort of a magical story, because I had always dreamed of Truffaut playing Monsieur Lacombe, but never imagined in my wildest dreams that he would say yes. So I didn't ask him. I instead went to Paris and met about eight or nine other actors, including Gerard Depardieu, who was very young then, and people like Philippe Noiret and other actors on the French scene. I can't explain why I wanted the character to be French, as opposed to Swedish or Italian or Russian — I just wanted him to be French. I really haven't been able to find a good reason for that; but it was poetic and it felt good for the movie.

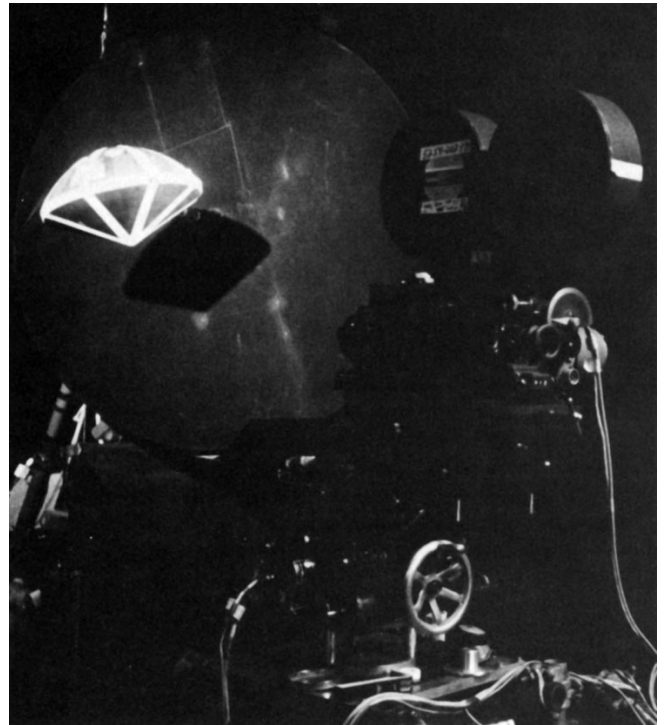
Almost as a last resort, when a lot of these actors either turned me down, couldn't speak English well enough, or just wanted too much money, I said, "I'll take a chance and go for my first choice," whom I just assumed would say no. I didn't want Truffaut to say no to me. And I didn't want to insult him by saying, "I'd like you to be an actor." I didn't know Truffaut. I thought perhaps he would be insulted by the offer. But I called him on the phone, and he answered it during breakfast, his time. Through an interpreter I explained what I was doing, and he very happily and jauntily said, "Send me the screenplay." I did; and a week later I got back a wonderful telegram which said: "I am very happy to be in your movie. Where do I have my costumes fitted?" And that was the beginning of it. Later I found out that one of the principal reasons he decided to make the movie was that he wanted to write a book about acting and about actors, and he really didn't feel he could put much credibility behind the authorship of such a book unless he acted for another director in another director's movie.

Which I think was the only time he had ever done that.

The only time, yes.

What about Melinda Dillon?

Melinda was really the result of Hal Ashby's generosity. I was seventy-two hours away from shooting Jillian's first scene and I didn't have a Jillian. The trucks were packed and moving already to Wyoming. My bags were packed and I was taking an airplane at the last moment — staying home in L.A. only because I had not cast Jillian. Either actresses didn't want to play her or I didn't want them. I really couldn't find the character. I had made several offers. Several people had said no to me. Then Hal Ashby phoned me up, and said, "I'm working with a marvelous new actress in my movie, Bound for Glory. It's not done yet, but I'll send you nine or ten



Self-illuminated and motion controlled on a stage filled with dense vaporized oil, the UFOs were choreographed and photographed one at a time by effects cameraman Dave Stewart.

scenes of hers in rough cut.” And he sent over these scenes. I looked at them and cast her on the spot. She was in makeup tests the next day, and on an airplane the day after that.

Bob Balaban was an interesting choice for Lacombe’s interpreter, especially since he didn’t speak French and had to learn his role phonetically.

Well, Bob Balaban I met through Judy Taylor, our casting director in New York. She introduced me; and I said to Bob, “You know, this part’s in French, most if it.” And he said, “Oui.” I said, “Do you speak French?” And he rattled off a couple sentences. I later found out that actually what he was speaking was English with a very thick French accent — it sounded like French to me. I said, “Great, you speak French.” Bob was flabbergasted that I had bought into his imitation of the language.

Also, there was something a little similar about Dreyfuss and Bob, in terms of stature and the shape of their bodies, the shape of their faces; and I thought it would be kind of interesting, in a weird sort of way, to have Truffaut’s assistant be a little bit more simpatico to the nightmare plight of Neary’s character. There was something almost brotherly about the two of them, a kind of a connection. But Bob was also a wonderful actor. I admired all of his parts. He had played character parts up until then, in a lot of feature films and television movies. I just thought he was a wonderful actor, and I was trying to get good actors in *Close Encounters* — as many as I could possibly gather.

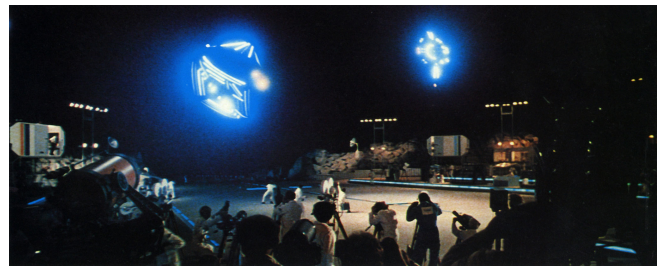
You referred to Richard Dreyfuss as your cinematic alter ego. I suspect that based on your childhood experiences, Cary Guffey, the little boy who gets abducted into the mothership, was also an alter ego.

Yes. Cary Guffey was great because he was just so open. He was only three-and-half years old when he made *Close Encounters*; and yet he talked, he argued, he was a great kid. He was just a very special kid. When I do a movie like this, I might meet one hundred fifty to two hundred kids, but the ones that I cast in my movies I cast because something about them stands out. And it might not be as simple as being a better actor. Often there are qualities that you really can’t put your finger on, that are not definable. Cary Guffey had a quality — and I really didn’t know how important it was until I got him into a scene.

It was one of the first things he shot, where he had to come into the kitchen and discover the aliens for the first time. We don’t see the aliens, but he does and he had to have a reaction. What I did was, I had to the left of the camera a cardboard partition and to the right of the camera a second cardboard partition. To the left of the camera I put Bob Westmoreland, our makeup man, in a gorilla suit with a full mask and hands and hairy



In anticipation of man’s first contact with extraterrestrial life, scientists construct a top secret reception area at the foot of Devil’s Tower in Wyoming. For scenes of UFOs emerging from the clouds and barnstorming the site, a miniature replica of Devil’s Tower and its surroundings was constructed, into which were matted live-action plates of the landing area and the aerobatic saucers.



Awe-struck technicians train cameras and electronic sensors on the alien visitors. Douglas Trumbull and company developed the first field motion control system for use during this sequence, allowing plates of the actors to be filmed with recordable camera moves that could be played back months later during postproduction photography of the saucers, thus insuring precise interlocking of full-size and miniature elements.

body. To the right of the camera, I dressed myself up as the Easter Bunny, with the ears and the nose and whiskers painted on my face. Cary Guffey didn't know what to expect — he didn't know what he was going to react to. His job was to come into the kitchen, stop at the door, and just have a good time. And he did that. He came into the kitchen and he stopped — and just as he did that, I had the cardboard partition drop on the left, and Bob Westmoreland was there as the gorilla. Cary froze, like a deer caught in car headlights — this might be the classical reaction of a deer caught in car headlights. He froze and he was petrified for those seconds. Then, no sooner did the first partition drop than I dropped my partition. Cary looked over at me, and there was the Easter Bunny smiling at him. He was torn, but he began to smile at me. He was still afraid of that thing, the gorilla; but then I told Bob, "Take off your head." Bob took off his mask. And when Cary saw it was the man who put his makeup on in the morning, he began to laugh. And even though it was a trick, the reaction was pure and honest, and was very effective when we put the sound effects in.

Earlier you spoke about conventions of the genre — the fact that aliens were always blowing up Washington D.C. and the like. Another convention of the genre was that almost all of these movies prior to yours were filmed through the eyes of some scientist and his usually young female assistant, with maybe a newspaper reporter or someone else thrown in. In *Close Encounters*, you went with normal, everyday people that audiences could relate to — the common man approach.

The common man approach is really in all my films, from *Duel* on. I mean, in *Duel*, the most ordinary man, played by Dennis Weaver, just goes on a business trip and gets marauded by a crazy truck driver whom you never see. *Jaws*, also, is about ordinary people. The Roy Scheider character is all of us in the audience, though in this case he has a little bit of 'aquaphobia' — if that's such a phobia — he's afraid of the water. But he gets involved, and he's the man who kills the shark in the end. Roy Neary is an everyday wage earner. He has a nice, nuclear American family; he works up at the power company; and he's the last person that something extraordinary would happen to.

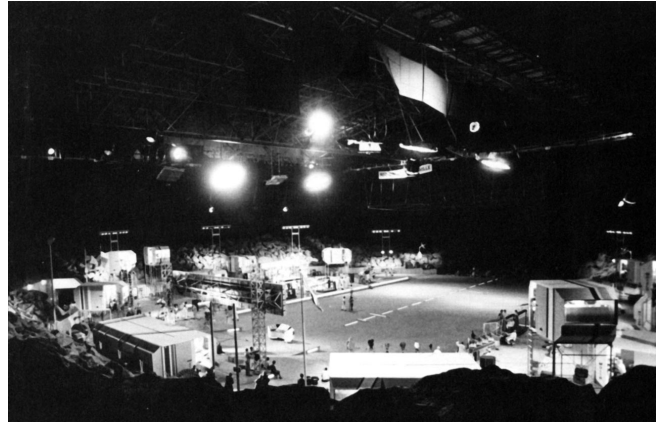
Now I'm not the first person to celebrate the ordinary man with extraordinary occurrences. Alfred Hitchcock was the first to really do this, and do it again and again and again very successfully — which is why James Stewart appeared in several of his films.

Frank Capra is another one.

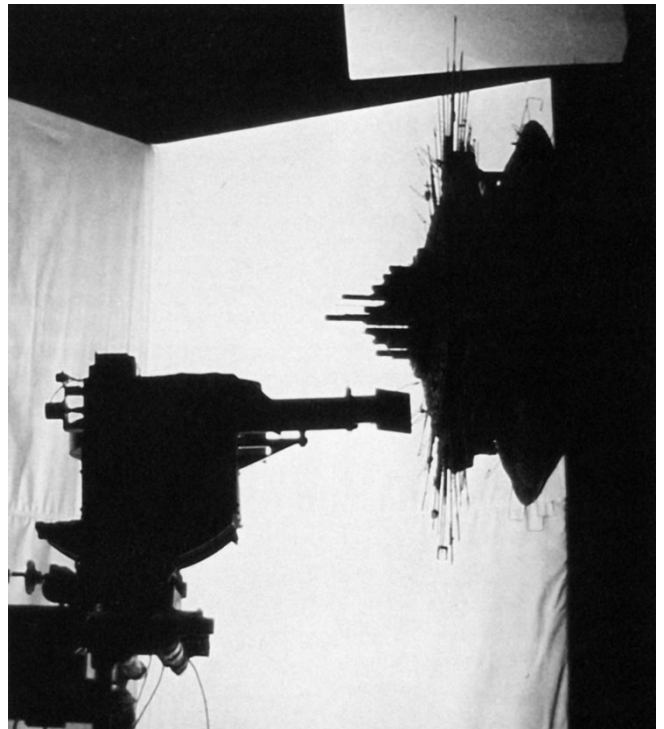
Frank Capra, exactly. And this has sort of been my theme, also. It's very hard to tell a story about a superhero through the superhero's eyes. A superhero is only a superhero, not to himself, but to people who aren't as super.

Could you talk about your location choices, particularly the Devil's Tower location in Wyoming and the Alabama dirigible hangar you selected for the mothership landing site?

When I was writing the script, the first thing I had in my mind was a football stadium. I thought, "What if a football stadium were at the base of this mountain?" The idea was that NASA or some international group would build an airport or an arrival zone for the visitors. And I always imagined a football stadium with big stadium lights — that combined with an airport, with runway lights that went miles off into infinity, into the horizon. So that was always in the script. But when we came down to putting it on paper with production designer Joe Alves, Joe and I discovered that a truly worthy arrival zone for the mothership would have to be really enormous.

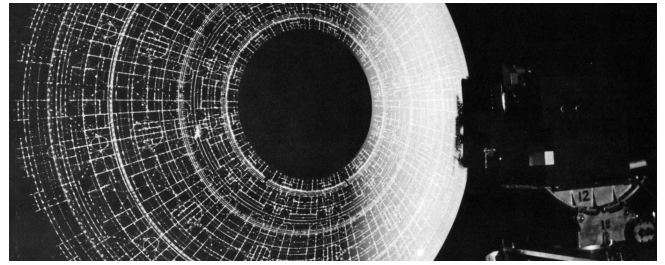


The Devil's Tower landing site was constructed in the dirigible hangar — an enormous structure without central supports — to maximize environmental control for the extensive night shooting that would be required on the massive set. Though a rim of fiberglass rocks surrounded the man-made structures and stadium lights, it was often necessary to extend beyond that arbitrary boundary with matte paintings.



The alien mothership — a gigantic craft — is photographed in silhouette against a white backdrop to produce a high-contrast matte element. No bluescreen was used. All traveling mattes were produced via repeat passes on separate pieces of film.

At the time, we didn't know how big the mothership was going to be. We knew it would be so big that it would flood out the stars. That was my only image of the mothership — something as black as the sky, with no light reflection, moving across the stars so that you only see the stars with a hard edge wiping them out of the sky — that's how big the mothership was. But I never had a concept of what the mothership was going to look like until I actually went to Bombay to shoot the final scenes of Close Encounters — the India portion of the movie where everybody points to the sky — and I passed a



Multicolored light displays on the underbelly of the mothership were created by projecting counterrotating pieces of intricate dot artwork onto a white domed surface to produce shimmering moiré patterns.

power plant to and from location that had tens of thousands of twenty-five-watt lightbulbs in a superstructure of steel mesh. And it was just a very, very complicated design. I can't even think of an artist who would have done it justice in painting, but it was something I had never seen before. I immediately came back to L.A. and sat with Ralph McQuarrie, who had done some illustration paintings for me and had done most of the paintings for George Lucas' original Star Wars and The Empire Strikes Back. So I sat with Ralph and I gave him this concept. Also I had taken pictures of the San Fernando Valley, which is full of light, and thought, "Wouldn't it be great if the conical living area of the mothership would look like a city from the air, either from an airplane or from Mulholland Drive, looking down at the Valley." And the combination of that and this power plant that I had photographed in Bombay sort of gave rise to the mothership.

But an actual location for something that humungous to land on was a lot larger than any soundstage in Hollywood or Rome or England. There was no precedent for a space like that. We didn't want to take the chance of shooting outside, because there were so many shooting days, night for night, and because of rain and all of the electrical connections. And we couldn't have any smoke in the air because of the matte cameras we'd be using for the effects shots. So because of all of these special restrictions, it had to be indoors where we could control nature and control the environment. Joe Alves went scouting all over the world, and found — in of all places, Mobile, Alabama — this defunct dirigible hangar from the second World War on an old Army Air Corps base that hadn't been used in many, many years. Grass was growing right out of the tarmac, and the place was just a wreck. But it did not have center supports. It was bigger than two football fields, and yet there was nothing in the center supporting it. It was the largest enclosure in the U.S.A., and that's where we decided to build the base of operations for Close Encounters.

Now, funnily enough, I was so worried about controlling nature and controlling the weather, what I didn't realize was that an interior that large creates its own weather. We would have clouds forming at ninety-five feet from the cement floor to the grids above. Actual clouds would form and sometimes it would even rain — rain would be generated inside this structure. It would be drizzling, and we'd look up and say, "Where is this coming from?" Well, Alabama is very humid, you know, and the clouds would come in there and it would actually rain on us. So it did have weather inside.

The idea of showing UFOs as essentially formless clusters of glowing lights was revolutionary at the time. How did that concept come about?

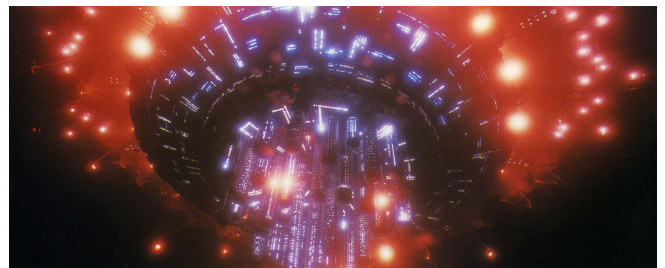
Well, from all of the reading I did in the area of UFO sightings, everybody reported one thing, which was ultrabright lights and no sound. When machines fifty to one hundred feet in diameter would hover above

witnesses, there were never any reports of internal combustion engines, but there were many reports of blinding lights — white, yellow, red lights, and so on. I would also go down to LAX (Los Angeles International Airport) and watch the airplanes coming in. From a long distance away, you can't see the engines, but the anti-collision lights and the landing lights are on full blast. And it's a wild thing to see just those lights coming at you. You don't see wings at night, you don't see stabilizers; all you see are soundless lights. And so that was, from the very beginning, in my screenplay. What I wanted to do for the UFOs was show just the lights. It would be very, very hard to see any surface skin of the ships themselves, except for parts of the mothership.

I'm not a special effects person. I could conceive of these ideas, but I couldn't engineer them or even take them further. But I remember how blown away I was by 2001: A Space Odyssey, and so I got a list of everybody who was a special effects supervisor on that. There were a number of them — about four of them — but the name that kept coming up, over and over again, was Douglas Trumbull. Everybody said, "Well, Douglas really made big contributions to 2001." I didn't know Stanley Kubrick well enough to call him — didn't know him at all, actually — so I called Doug Trumbull instead. And I said, "Did you really do that movie?" And he said: "Yes, I did. I worked years on it." And I just became a big fan of his. I asked him if he would do Close Encounters for me, if he would supervise the special effects. He had some problems with that, because his company was owned by Paramount and this was a Columbia picture, but I think the lawyers worked things out and he was on the project next thing you knew.

Aside from the fact that his company was owned by a different studio, did he express personal reservations about working on Close Encounters? By then, he had directed his own film, Silent Running, and was at a point where he seemed more interested in pursuing his own projects.

He told me that he had directed, and had tasted directing and liked how it felt — and he wore it well. Really, his film was way ahead of its time. It was an ecological film that is just now becoming a reality to us here. You look back at Silent Running today, and you say, "Ooh, wow, that's an important movie." Doug was a visionary kind of a guy; and as I didn't imagine Truffaut would immediately say yes, I didn't expect Doug to say yes. I expected Doug to actually say: "Look, I'm directing now. I can't do your movie, but here are ten names — maybe one of them can" But instead, Doug thought it over and came back with good news.



Like a city of light the mothership settles over the Devil's Tower landing site. Inspired by an oil refinery Spielberg had seen on location, the mothership model — about four feet tall by five feet wide — was a nonsymmetrical fiberglass structure fitted with aluminum cylinders and telescoping brass rods, then detailed with pieces of metal and plastic. Inside, the craft was densely packed with wires and transformers needed to operate the profusion of neon tubes, fiber optic bits and tiny incandescents that provided its practical illumination. Like the small saucers, the mothership was photographed on a smoked stage.

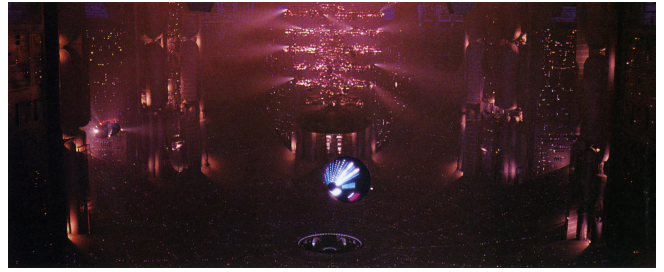
Doug has a very strong sense of what he likes to see. Did his ideas for Close Encounters coincide with yours?

Yes, we worked really well together, principally because he liked the script and he understood my concept about bright lights, as opposed to elaborate spaceships with design and ‘rococoing’ and fins and stuff like that. He also knew something about the UFO phenomenon and agreed that lights are what people see, silent lights. And he wanted to do something interesting with the mothership. He was very interested in how he could create moiré patterns on the conical surfaces that we talked about, that I wanted to resemble the San Fernando Valley lit up at

night. Doug did a lot of things experimentally that turned out to be techniques that have been used again and again and again — not the least of which is his own invention of motion control, which had never been done that way before. Star Wars used a motion control system, but not live-action motion control with actors and with automatic focus changes. Doug and his engineers invented this system which made it possible for people to interact with the UFOs that were actually done a year later, long after I had shot the 65mm plates with the actors touching nothing, reacting to nothing but perhaps a light on a crane to give the effect of the UFO light pouring down. So Doug paved some new roads that hadn’t been done before — not even in 2001.

Your films always have very memorable images. Certainly among the most memorable from Close Encounters is that of the mothership rising up from behind Devil’s Tower. What possessed you to have it come up from below?

Well, it wasn’t my first idea. My first idea was to have it come out of a large cloud; because when I initially storyboarded the effects scenes, I had clouds being formed as a kind of a camouflage or a smoke screen. Then a lot of the objects — the lights — would come out of the clouds, barnstorm the base of operations and return to the clouds again. And I had first thought, “Wouldn’t it be great to show the mothership coming out of this cloud?” But then something about the image... I guess it’s like a still photographer who sees an image and can’t get it out of his head. I saw the mountain as being so symbolic of the Rosetta stone to all of these people who knew they belonged and knew they had to get there for some reason. They had all seen the shape in their mashed potatoes or their shaving cream or who knows what. And then, having finally seen it on TV, they had made a pilgrimage to Devil’s Tower, Wyoming, to be a part of something — what, they did not know; but they knew they had to get there, they were compelled. And that mountain had become so important in the plotting of the movie that I didn’t want to forget it. So I just had this idea one night: “What if the mothership started below the mountain and rose up? Wouldn’t that be kind of weird?” You know, sometimes when you have an idea, you don’t say, “What a great idea.” You say, “Wouldn’t it be kind of dumb, wouldn’t it be kind of weird if...” And it just sort of happened out of conversation in that way. Then George Jenson, one of the storyboard illustrators, drew it that way and it looked really good on paper.



Not altogether satisfied with the film as it was originally released, Spielberg persuaded Columbia to let him reedit the picture and produce some new footage for a Close Encounters of the Third Kind – Special Edition released in 1980. The studio’s stipulation was that it take viewers inside the mothership — which had not been done in the earlier version.

Did the success of the movie surprise you?

Yeah, it did surprise me. I really thought I had made this two-hour-and-sixteen-minute art film, you know. I didn't know what was going to happen with it. George Lucas made Star Wars the same time I made Close Encounters — so one film wasn't really the precedent for the next, it was just that George got to the boxoffice before we did. He was six months in release before Close Encounters could be finished. But when George finished shooting Star Wars, he came to visit me in Mobile, Alabama, and spent a couple of days on the big hangar set with me — just sitting on the artificial fiberglass rocks talking about movies and stuff. And George looked around and said, "You know, your movie is going to be much more successful than my movie." I said, "Why is that?" And he said: "Because Star Wars is a fantasy. It's a film for kids. Kids never go to the movies anymore; only grownups see movies. But this movie's for adults. It's got UFOs, which people believe in" — a Gallup poll at the time was showing that most Americans believed that UFOs were real — "and I've just made this kind of pulp, comic-art space movie, kind of like Buck Rogers goes modern." So I said, "Well, George, if you really believe that my movie is going to outgross your movie, let's trade points. I'll give you a point of Close Encounters for a point of Star Wars." And George said, "Right, great." We shook hands, we traded points; and, of course, I made a lot more money off of my point on Star Wars than George made off of his point on Close Encounters.

Are you among those who believe that UFOs are real?

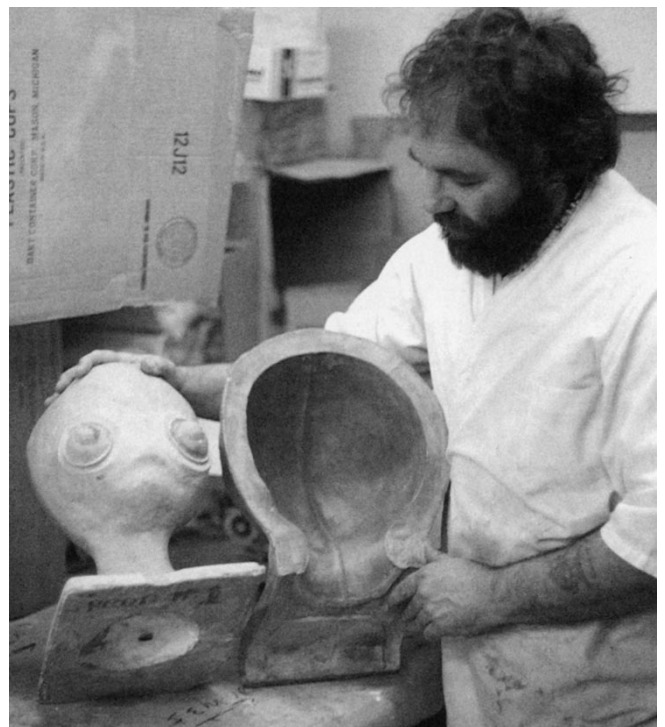
I'll tell you what I believe. I believe in people and I believe in witnesses. And I believe that as many people who have seen what they report to have seen... Admittedly, a lot of the sightings, about ninety percent of the sightings, are actually just misperceptions — you know, Venus on the horizon, which tends to scintillate and look otherworldly, or a strange moon, or all sorts of things that can be explained. But there is that narrow percentage of things that just cannot be explained. My feeling has always been that I would have to see it myself to really believe it, to make a statement that I believe that UFOs are here and watching us as we are watching them. I'd have to see it for myself — not just make movies about it. But I give great credence to all the witnesses all over the world, all these different cultures and languages, who see the same thing over and over again. And that's kept my interest really high in UFOs ever since.

Close Encounters, amongst its other firsts, has to be the first successful movie ever to be reissued in a substantially altered form with new and previously unseen material. How did you get the idea for a Close Encounters – Special Edition, and did you have to do much arm-twisting to get Columbia to go along with it three years after the fact?

Well, what happened was, at the time we made Close Encounters, Columbia was in dire financial straits, as they say. The administration had been changing hands faster than relay races and the stock was fluctuating dangerously low. It was the first time a major company was really about to fall into the abyss. So there was a lot of pressure on me to deliver a movie that was going to, if nothing more, get them out of the abyss just by a show of class and a show of popularity and making a hit for them so they could be Columbia again. I didn't like that role at all; because the executives weren't slapping me on the back, saying, "Do your best." They were saying, "You have to make a hit for us, because we are in big trouble." And that wasn't a lot of fun. As a result, they asked me to release the film in November.



Dozens of extraterrestrials emerge from the mothership and escort telephone worker Roy Neary (Richard Dreyfuss) inside. Spielberg was determined that his aliens resemble those most commonly described in reported sightings and that they appear nonthreatening. Little girls — dressed in body stockings and wearing rubber heads and gloves — were eventually enlisted to play the parts.



Both articulated and nonarticulated heads were produced by The Burman Studios. Makeup artist Tom Burman examines one of the molds used to make the nonarticulated heads for the background characters.

Now I had never planned to release *Close Encounters* until December — mid-December — and that seven weeks early that they wanted it in theaters didn't allow me to fully cut the movie. Also, I was spending so much time on the special effects with Doug Trumbull down at Marina del Rey — and with Richard Yuricich, who worked shoulder to shoulder with Doug on all of the effects — that when it finally came for me to work on the body of the movie, I really didn't have enough time. They wanted the movie too soon. So the movie that you saw in theaters, the original, was a work in progress that had never been finished. And there were things I wanted to do. There were scenes I wanted to add; I wanted to tune it. I wanted to cut certain things out, add certain things.



Unenthused with the footage he had managed to obtain on location, Spielberg proceeded to explore other options during postproduction. The most effective — and the one that would be featured most prominently in the final film — was a fully mechanical extraterrestrial designed and constructed by Carlo Rambaldi.

I never really wanted to show the inside of the mothership. That was, in a way, how I got the money to fix the movie. It was sort of a deal I made. Columbia said, "If you show us what's inside of the mothership, take that film a step further, we'll give you the money necessary to complete your movie the way you would have in '77." So I said, "Great," because I had gone to them and asked, "Would you let me do the movie a second time, the way it would have come out in '77 had I had seven more weeks?" So I took those seven extra weeks, made it like nineteen weeks, added a few things — like the discovery of the ship in the desert, which I had always wanted to do and which was in my original script — and actually cut some things down, added some gestalt and took out some kitsch, and reshaped the movie. Now the purists, of course, like the original version the best, because that was what came out of my heart, crude and rough-hewn and that sort of thing. It was off the lathe, so to speak, off the stone. And so a lot of people really prefer that. But there are things in the special edition that I prefer, which makes me really happy that I had a chance to do it over again.

What kinds of things make the special edition special for you?

Just the idea that it's a tighter story. It's better storytelling. I cut out Richard's loss of sanity in tearing up his house to build the mountain. I cut that way down for the special edition, only because I felt that I was being redundant. The audience had watched his descent, and I felt that they were thinking it was just one extra display. "We already know that, we already know his state of mind. Why dramatize it in such a bizarre, Hieronymus Bosch way? Why don't you just give us some credit for being a bit ahead of your storytelling?" And I had felt that I had been too on-the-nose with a sequence like that. But you know something? Whenever I see that sequence in the original version, I enjoy it because it's funny and Richard's good in it.

On the other hand, I remember talking with you shortly after the movie was released, and you told me about the sequence where Ronnie finds Roy in the shower, and he's crying and they have this big fight. You said at the time that you thought it was too strong a scene for the film at that point, and so you left it out. But in the special edition, you put it back in.

Yeah. Well, the reason I put back the crying in the bathtub and Ronnie 'freaking out' — to use a word that was popular then — is because everybody had their moment of resolution and departure. Richard had his breaking point, where he committed himself to his own future destiny, but Ronnie never had her breaking point. And I didn't feel that Richard's throwing all the paraphernalia through the windows and building the mountain in

the living room was really enough to drive her out of there. But I felt something about a man, broken and crying in a shower so that nobody will hear him cry, and the children reacting to the sight of their father in tears in the bathtub, Ronnie trying to help, trying to pull him out of it, the kids slamming the doors over and over again and running out of the room, and the family starting to fall apart before her eyes — that was an important scene, less for the Ray Neary character and more for the wife. And I felt that scene had to go back into the movie to justify her leaving.

You have said that having Roy go inside the mothership was not something your particularly wanted to do.

No, I sold out.

Would it be fair to say that the ideal movie, for you, would be the special edition up to the point where the original film ended?

Yeah, the ideal Close Encounters of the Third Kind – Special Edition would have been where the original film ended, and not with Richard going into the mothership and looking around and having those moments of just seeing more high-tech stuff and more ships like bees in a beehive. It was beautiful, and it was really imaginative, and the people who did it did some good work; but I prefer the original ending of the movie to that one.

How does the ideal Close Encounters fit into your pantheon of accomplishments?

Well, I think Close Encounters and E.T. are the two most personal films I've ever made — and I think it's because those films came out of my own life experiences. It's something that I had dreamed about as a child. Then I grew into a movie director, and had the opportunity to make my childhood dreams come true. So they're very close to my heart, both of those films.

Close Encounters of the Third Kind photographs copyright © 1977, 1980 by Columbia Pictures Industries, Inc.

COMMERCIAL SPOT: SCI-FI PEST CONTROL

article by Phil Carpenter

Termites, cockroaches, fleas, ants — these are the homeowner's nightmare. They burrow and infiltrate, swarming in limitless numbers. Who you gonna call? *The Exterminator*!

More specifically, call the husband-and-wife team of Linda and David Dryer at Dryer/Taylor Productions in Hollywood. That's what the J. Walter Thompson advertising agency did when Orkin ordered a recent series of television commercials. Earlier, to promote the same company, J. Walter Thompson had created a futuristic campaign which featured the *Exterminator* — a kind of bug-spraygun-toting RoboCop pitted against the insect underworld. After the success of that initial campaign, the agency assigned the Dryers a new series of seven spots that would depict the further adventures of Orkin's space age hero.

Borrowing from classic science fiction themes, each spot is a mini morality play — a representation of the universal battle between good and evil. "We're making little sci-fi films about that battle," David Dryer noted. "And the underlying feeling is that not only do you want somebody to come to your house to get rid of the pests, you want somebody who will make the bugs suffer! You want them to burn, baby, burn! So we have this character empowered with all these capabilities. He is definitely more machine than human — although he has an intelligence and point of view seen through an electronic sort of scan. He is of the style of a lot of contemporary sci-fi films: a little bit of this, a little bit of that, all thrown in together. So not only are we doing a commercial, we are having fun spoofing current science fiction films in the process."

Each of the spots in the current series was preplanned down to the smallest detail. "My approach is to design exactly what we are going to do," Dryer commented, "and then not do anything else. Every shot is like an animation project; it's all edited out of a shooting board — second by second, exactly how long a shot is going to be." Once the shooting boards are established, worksheets are prepared for each scene. These worksheets record the work in progress for the scenes, and are placed on bulletin boards for ready access.

Every hero needs a headquarters — hence, a futuristic laboratory set was ordered, designed by art director Georg James. James and Dryer developed the look of the laboratory set by looking at futuristic settings in a number of science fiction films. Ultimately, the forty-by-fifty-foot set was realized as an industrial research and development lab, with screens showing closeups of insects and a 'cold fusion' reactor that consisted of a backlit tube filled with bubbling liquid. Set dressing included bugs sitting in beaker jars. *The Exterminator* makes his entrance into the lab as airtight doors snap open with a blast of gas.

Under the supervision of executive creative director Michael Lollis, the *Exterminator* himself was updated slightly from the first series of commercials. The original 'go-bot' look was trimmed down, especially in the lower legs, and the surfaces made more pearlescent. "We wanted to make him look a bit more formidable," said Dryer. Shots of the *Exterminator* were achieved by an actor in a suit and a corresponding stop-motion puppet — both built by Stetson Visual Services.

For the suit, the Stetson crew took a mold of actor David Cowgill's head, then constructed a helmet out of polyurethane plastic. The torso and arms were fabricated out of vacuform plastic and included fiber optic strands, light bulbs and motorized mechanisms which were operated off camera. Designed only for closeups of the character, the suit did not extend past the actor's mid-thigh.

The Stetson team also fabricated a twenty-one-inch-tall puppet for full body shots, as well as a miniature laboratory. Kevin Dole directed the puppet animation on Dryer's motion control stage. Of primary concern in the process was creating a sense of power within the stop-motion figure. "We armatured the puppet at the hip," stated Dryer, "and that was motion controlled to give him a flow of momentum at that point. Then we stop-motioned the legs and the shoulders, the head and the countermovements, to give the character a feeling of force. Because all of the shots were moving, the camera was also motion controlled. We shot the puppet in front of a little bluescreen — later extracted using Ultimatte — and then composited a background and various lighting effects." One of the lighting effects was the *Exterminator's* powerful laser beam, produced by R&B Films with cel animation.

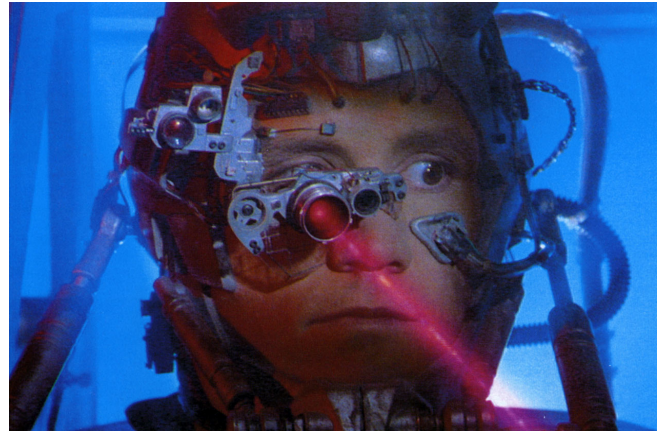
Hiding from the *Exterminator* is futile, thanks to an electronic imaging system which displays the doomed pests on a video screen. Initially planning to film the targeted bugs as stop-motion miniatures, the Dryers discovered that real insects could be employed. "We had bugs photographed in an electron microscope by David Scharf, who is far and away the leader in that field." An electrical engineer as well as a photographer, Scharf had configured his electron microscope to scan and output directly in NTSC format. The monochrome images were colorized by Composite Image Systems in their paintbox bay. Realistic colors were avoided to give the impression of a kind of a computerized, heat sensitive system. Dryer was delighted — and thoroughly amazed — to learn that Scharf could record moving insects. "Through trial and error, and a lot of work, he eventually found that for five to fifteen seconds after the chamber was evacuated the insects would continue to move around. In fact, they survive the vacuum. He has left some in for as long as four hours."



A cyborg exterminator — suited by Stetson Visual Services — declares war on the insect underworld in a series of Orkin commercials produced by Dryer/Taylor Productions.

Fortunately, the *Exterminator* has the firepower to deal with such resilient adversaries. Like a transformer toy, his arm and glove convert into the ultimate weapon — Orkin's foam injection system. To realize the transformation of his glove into the injection system, footage of both the suit arm and the animated injection gun was transferred to D-1 digital format by Composite Image Systems — Hollywood, then delivered to Pacific Data Images where a morph between the two images was executed. "Normally, morph is a very fluid thing," explained PDI effects supervisor Ray Giarratana. "But in this case, we wanted much more of a linear, precision motor kind of movement." Toward that end, PDI conferred with Stetson Visual Services to determine exactly how the various pieces of the arm in their suit were engineered. "Basically, we had to morph each section separately. We would do a take, remove one part of the arm; shoot another take, then remove a couple of more parts. We morphed them all totally independently, then put them back together. So any one of the arm transformations was not just one morph — it was probably more like fifteen."

Dryer estimates that some fourteen thousand man-hours went into the seven commercials — an all-out effort that has definitely paid off for the client. "The campaign has been very successful. Orkin tracks it by how many phone calls they get when they run it in a particular market — and when they run these commercials, the phone calls go up. When they substitute with a different kind of commercial, the calls go down. In recessionary times, they are doing better than ever — and they are very pleased."



The high-tech Orkin spots incorporate effects work from numerous suppliers, including rotoscope laser animation by R&B Films and electron microscopy by David Scharf.



The high-tech Orkin spots incorporate effects work from numerous suppliers, including rotoscope laser animation by R&B Films and electron microscopy by David Scharf.

PROFILE: DOUG BESWICK

article by Lance G. Gilmer

Ever since high school, animator Doug Beswick had dreamed of creating special effects for Hollywood motion pictures. In these formative years, his movie-making activities were restricted largely to eight-millimeter enactments of giant clay monsters attacking tiny men. But those primitive clay creations were the precursors of what he would come to create in his professional life: the stop-motion endoskeleton for *The Terminator*, the giant sandworm in *Beetlejuice* and the time-displaced tyrannosaur from *My Science Project*, to name just a few.

A movie fan since childhood, Beswick was originally inspired by the stop-motion magic of Ray Harryhausen. “I remember seeing *The 7th Voyage of Sinbad* when it first opened in theaters in 1958,” Beswick reminisced. “Later, when it came out as second billing with *Mysterious Island*, I had to find out everything I could about the effects in both films. I was hooked. Anyone working in stop-motion will tell you it was either Willis O’Brien or Ray Harryhausen that inspired them. I’m no different.”

Born in Jamestown, New York, in 1947, Beswick eventually relocated to Southern California with his family. It was in his middle teen years that he was bitten by the movie bug. “My interest was in mechanics. I was the guy in the machine shop classes. I really wasn’t an artist at the time — although I became one.” After graduating from high school, Beswick decided to forego college and pursue his interest in film. “I worked at a supermarket bagging groceries, just to get some money coming in, and in my spare time I would make my eight-millimeter films.”

Although Beswick did eventually enroll in community college, he continued to dream of a career in the effects field. “I started knocking on doors. I tried everywhere, and I wasn’t having any luck at all. One day, just for the heck of it, I started looking through the phone book for Jim Danforth’s number. Jim is a stop-motion animator who had worked on *When Dinosaurs Ruled the Earth*. I called him and he agreed to see me. I brought one of my films over — a campy version of *7th Voyage of Sinbad*. He liked what I had done, but there was simply no way somebody green could come in and find a job in the business.”

Danforth suggested that Beswick contact Clokey Productions, the film company responsible for *The Adventures of Gumby*. “Jim gave me Art Clokey’s number and I called him up, then went for an interview. I showed him some of my film and he told me he’d give me a call.” Taking the promise to heart, young Beswick waited by the phone every day for three months. Then, one day, Clokey did call. “He had a job for me! I went to work making props for the *Gumby* episodes.”

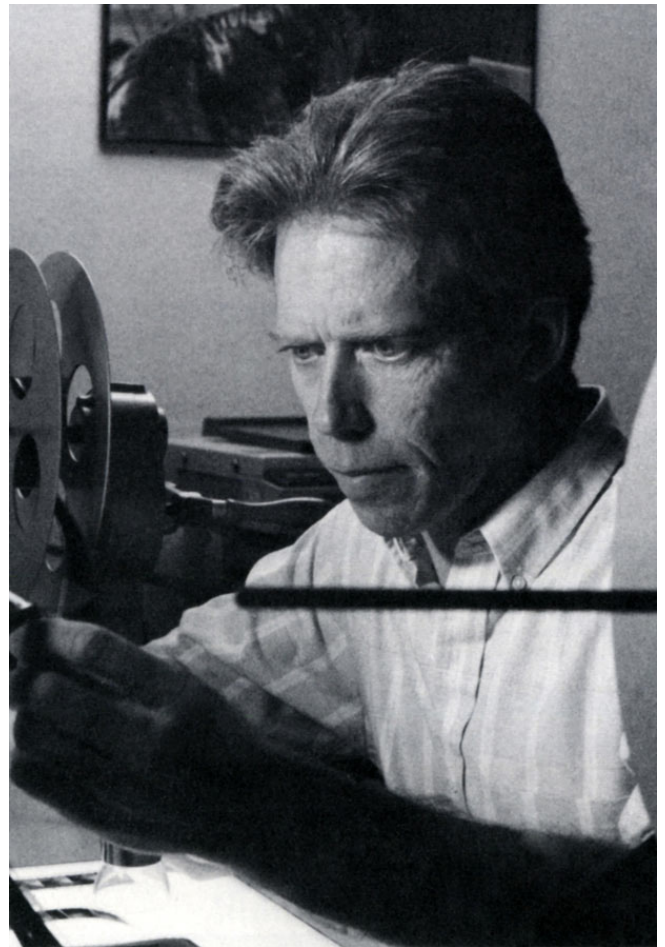
While at Clokey Productions, Beswick became acquainted with a young makeup artist named Rick Baker who would come to work at the company every day after school. Beswick stayed with the Clokey organization for four years, then began branching out into freelance work. “I started doing stop-motion, then moved on to rod puppetry.” One of his earliest assignments was on a secretive little project called *Star Wars*. “Rick Baker was supervising the construction of the aliens for the film, and I was working on his crew. Neither of us had any idea it was going to become such a phenomenon.” Beswick continued with the series, creating the tauntaun armatures for *The Empire*

Strikes Back and assisting in the animation of the walkers. He also continued his association with Baker, working for the now celebrated makeup effects artist on such projects as *An American Werewolf in London*, *Greystoke* and *My Science Project*. “Rick was a consultant for *My Science Project* and I was hired by Disney to do the dinosaur.”

A benchmark film for Beswick was *The Terminator*. “*Terminator* was farmed out to me via *Fantasy II* — I was commissioned just to make the stop-motion endoskeleton. I read the script and I knew it was going to be hot. And the director, Jim Cameron, had an effects background — he was one of us!” Two years later, Beswick was again associated with a Cameron film, supervising the construction of the rod puppet alien queen for *Aliens* and the quarter-scale power-loader and puppet Ripley. Eventually, in 1985, he formed Doug Beswick Productions, an effects company specializing in stop-motion and rod puppet work. Currently underway at the facility are postproduction effects for *Ticks*, an independent feature derived from a script idea Beswick had been nurturing for nearly two decades.

Even as stop-motion continues to lose ground to computer graphics, Beswick remains optimistic about the future of his specialty. “I don’t think stop-motion will ever become extinct. There will always be producers and companies that can’t afford CGI. But I also know that in this business, you need to acquire as much knowledge as you possibly can.”

After nearly twenty-five years in the field, Beswick understands the dedication that special effects require. “You have to be really serious about the work. The hours are long. Even if you have a family, there are times when you have to stay late and finish that shot. And there is no real glamour in effects — it is just hard and frustrating work. The fun comes after you’ve finished the project and you see it up on the screen. That’s when I’m the most happy.”



Doug Beswick studies exposure wedges for a visual effects shot produced at his studio for the upcoming *Ticks*.

LASER REVOLUTION: HARRYHAUSEN CORNUCOPIA

column by David C. Fein

In the brief *Evolution* of motion pictures, it is rare for someone to achieve a historic place as the master of a genre. Yet for more than three decades, the name of Ray Harryhausen has been held in special regard by aspiring artists and dreamers because of his bringing to life the mythic characters of fable and folklore. As a child, Harryhausen had been taken to see Willis O'Brien's amazing new film, *King Kong*, and he had never gotten over it. Enchanted by the sorcery which had given life to this giant ape and his prehistoric adversaries, Harryhausen dedicated himself to the study and mastery of visual effects, specifically character design and stop-motion animation.

For many years, the only way to view the works of Ray Harryhausen was through poor quality television broadcasts or videocassettes offering substandard video transfers. With renewed interest in his craft, however, the majority of Harryhausen's films have finally been retransferred from the best materials currently available and presented, in some cases for the first time, on laserdisc.

The largest collection of releases comes from Pioneer LDCA. Through a limited availability agreement with RCA/Columbia Pictures Home Video, Pioneer has remastered and repackaged six of Columbia's Ray Harryhausen movies. All feature excellent transfers, though most are being offered at prices higher than their minimal historical additions might warrant. Two of the releases, *First Men in the Moon* (\$49.95) and *20 Million Miles to Earth* (\$44.95) contain no supplemental materials or special features, but do offer the first side in CLV, with the remainder of the film in CAV. While the majority of Harryhausen's films were photographed in the video standard 1.33:1 aspect ratio, *First Men in the Moon* stands apart as his only anamorphic feature and is presented for the first time in the letterboxed format. Of the other Pioneer releases, the most worthwhile are *The 7th Voyage of Sinbad* (\$59.95) and *Mysterious Island* (\$69.95). Both are presented completely in CAV, with their respective Bernard Hermann stereo scores remixed over the original mono dialogue and effects. But, as with *The Three Worlds of Gulliver* (\$69.95), also entirely in CAV, the music tracks are also offered separately on one of the analog channels. *The Golden Voyage of Sinbad* (\$49.95), though presented without a stereo remix, does include Miklos Rosza's score on a separate audio channel. As with *First Men* and *20 Million Miles*, it also has one side in CLV and the other in CAV.

Only two of the Pioneer laserdiscs provide accompanying materials. In a curious juxtaposition, *Mysterious Island* features an incomplete trailer for *7th Voyage*, plus a five-minute publicity short for the same film. Titled "This Is Dynamation," the featurette offers rare behind-the-scenes footage, including some of fencing choreographer and stunt supervisor Enzo Musumeci-Greco, who acted as a stand-in and study model for the animated skeleton inserted after principal photography. The featurette



also provides an unusually detailed examination of the special effects for the time and includes material on the bluescreen work, footage of the oversized pillow used to create the illusion of the miniaturized princess and discussion of the optical printer. Why these shorts accompany the *Mysterious Island* laserdisc, rather than *The 7th Voyage of Sinbad*, is anyone's guess; however, as shorts they are excellent.

The recent release on laserdisc of nine Ray Harryhausen films — including The 7th Voyage of Sinbad — affords students and fans of the stop-motion master an opportunity to savor his work as never before possible on video.

Pioneer has seen fit to promote its Harryhausen titles as 'Special Editions.' Though new technology and superior source materials have delivered outstanding video transfers, the phrase 'Special Edition' seems sadly inappropriate because none of the releases take advantage of the tremendous supplemental possibilities. While separated music is a cherished concept to a score collector, the works of Ray Harryhausen are renowned for their extraordinary special effects. Would it not have been preferable to present each film with an in-depth commentary track by the effects artist or some other authority? Comprehensive supplementary sections would have turned these releases into important study resources, instead of simply enhanced viewing experiences. Since Pioneer's distribution pact with RCA/Columbia expired recently, perhaps the studio will consider reintroducing these stop-motion classics, as well as their own Harryhausen titles, with the proper commitment to creating true 'Special Editions.'

Warner Home Video has recently released three of its resident dinosaur movies on laserdisc. Two feature the animation of Ray Harryhausen — *The Beast from 20,000 Fathoms* (\$34.98), his first solo feature, and *The Valley of Gwangi* (\$34.98). (The third is a remastering of *When Dinosaurs Ruled the Earth*, with Oscar-nominated effects by Jim Danforth.) The video transfers are of excellent quality, with Side Two of *The Beast from 20,000 Fathoms* in CAV. As with the Pioneer releases, these laserdiscs would have been of greater interest to effects aficionados with full CAV presentation and supplements.



Jason and the Argonauts — a Voyager release — benefits from an extensive supplement and the direct participation of Ray Harryhausen.

More in line with this ideal is The Voyager Company's Criterion Collection edition of *Jason and the Argonauts* (\$99.95). Unlike all of the other releases, this special edition was prepared with the active participation of Ray Harryhausen. The new digital video transfer was assembled using two existing interpositives and direct consultation with Harryhausen to insure proper color and quality. This special care has yielded not only an excellent video transfer, but an important visual correction to the attack of the harpies, presented inaccurately in all former transfers as a daytime sequence. Shot day-for-night, the scene was presented theatrically as taking place at dusk — as it now does also on laserdisc. Unusual for Voyager was the decision to produce Side One in CLV format, although care was made to insure that no animation scenes were affected.

Another important feature of this presentation is a running commentary by Harryhausen and film historian Bruce Edel (who coproduced the laserdisc with Curtis Wong). Both this track and the supplement concentrate on Jason, yet endeavor to cover Harryhausen's entire career. In addition to Jason's own, theatrical trailers are included for *It Came from Beneath the Sea*, *Earth Vs. the Flying Saucers*, *The 7th Voyage of Sinbad* and *Sinbad and the Eye of the Tiger*. The supplement features considerable study of the hydra sequence and exceptional material on the skeleton battle, with photographs showing the live-action prior to the addition of animation models and stuntmen with numbered shirts standing in for the skeletons. Production notes, original opening credits for the later retitled *Jason and the Golden Fleece*, production artwork, posters, lobby cards and photos of the stop-motion puppets round out the supplement. While no one supplement can possibly cover every aspect of Ray Harryhausen's life and films, the Voyager laserdisc does provide a reasonably thorough overview of Jason and the effects artist's career, in many ways making up for the shortcomings of the other releases.

Also worthy of mention is Lumivision's recent release of *Aliens, Dragons, Monsters & Me* (\$29.95). Formerly available only on Japanese laserdisc, this documentary includes excerpts from Harryhausen's earliest animation experiments, footage from his uncompleted *Evolution* film, test footage from *The Elementals* (also featured with remarkable clarity on Voyager's Jason disc) and clips from his early fairy tale shorts. Interviews with longtime friend Ray Bradbury, producer Charles H. Schneer, actor Kerwin Mathews and the widow of Willis O'Brien, all describing their experiences with Harryhausen, are fascinating, and often funny. Also, exclusively on this laserdisc are excerpts from his military short, *Guadalcanal*, plus supplemental footage of his animation models.

After a generation of low-quality video transfers, these new releases are a welcome arrival to the Harryhausen archive. While all offer substantial improvements over earlier versions, allowing viewers to enjoy the films as they were intended, those interested in studying Ray Harryhausen's career are best directed to *Aliens, Dragons, Monsters & Me*, followed closely by Voyager's *Jason and the Argonauts* presentation, and finally Pioneer's *Mysterious Island*, primarily for its *7th Voyage of Sinbad* supplemental additions. These three laserdiscs stand out for their in-depth coverage of the artistry that went into the films and are invaluable in preserving the legacy of one of the giants of visual effects.

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